

## Case Study

# Fast Forward from Financial Statements to Lending Loans

For Banks and Financial Lenders, a critical process in assessing credit risk is obtaining and analyzing the borrower's financial statements to calculate financial ratios (also known as financial spreading). Using Machine Learning (ML) and AWS Textract, the solution applied to automate the Financial Spreading enabled this process to take minutes versus days to complete.

Our client is a leading software provider in the Asset Based Lending world, with a specific module in their Lending Product for handling financial statements called the Financial Analyzer. The common financial statements handled in the process are the Balance Sheet, Income Statement, and Cash Flow Statement. In larger organizations, the financial numbers are maintained using the company's financial system that can be directly connected and imported using an API, while in Small and Medium Enterprises (SME's) the financial statements are either .PDF statements or Scanned .PDF documents.

## CHALLENGE

Our premium client, Cync Software, approached us to help them solve the challenge of calculating ratios manually from text-based or scanned images .PDF either using Microsoft Excel or third-party solutions. The process of manually entering the financial statements into an excel file or a third-party application to conduct credit analysis is a very time-consuming task. The process is also exposed to an increased risk of error due to the manual nature of the process. In addition to this time-consuming manual entry process, the Small Medium Business Enterprises (SME) companies would use a variety of non-standard financial terminologies in these statements, requiring subject matter expertise to map them to standard financial terms. Ensuring that the mapping of these standard financial terms to the applied solution is done correctly is critical to remain in compliance with GAAP standards since credit decisions are influenced by these final ratios.

***“Presently our clients are requesting our Lenders to enter these financial numbers from their statements manually within the product and did not have the capability to read from .PDF or scanned image files.”***

## SOLUTION

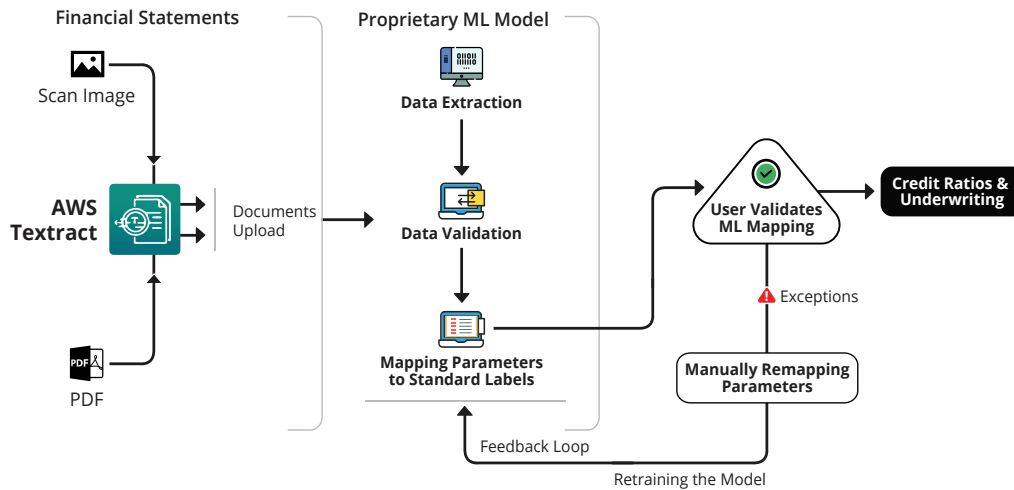
### 1. Extracting text from .PDF files using AWS Textract

Using the power of AWS Textract for reading .PDF documents and scanned images, the Idexcel team created a solution to extract text from .PDF documents and perform Optical Character Recognition (OCR) using Computer Vision with significant accuracy on scanned .PDF files. Unlike traditional OCR solutions, AWS Textract provides a detailed JSON output, which can be leveraged to get context for mapping a parameter with its corresponding value.

## 2. Our custom in-built Machine Learning (ML) model was then used to map the non-traditional financial terms into GAAP standard financial terms

Our custom ML financial terms mapping model leveraged Natural Language Processing (NLP) to complete the mapping portion of the solution. Our approach incorporated human intervention in the loop feedback system for mapping, allowing the user to update the mapping by correcting standard terms as necessary. The corrected parameters were used in training the model, enabling the quality of the ML predictions to keep enhancing over time. After the corresponding data was fetched for each of the applicable parameters, the ratios were auto calculated.

### Machine Learning Based Financial Analyzer Framework



## BENEFITS

**Faster Processing Time:** With the ease of use, speed, and accuracy in calculating financial ratios, the tool delivered exceptional value to the user by empowering financial institutions to reduce loan processing and credit risk assessment time.

**Improved Process Efficiency:** The solution Idexcel applied also helped bankers focus on their core business and customer priorities, improving overall operational efficiencies.

**Improved Capability:** As a result of our solution, the processing time for mapping statements and extracting financial ratios were reduced by 30 minutes per financial statement. The Idexcel approach also incorporated the capability to extract from scan documents, which was not possible earlier.

## OUR AWS COMPETENCIES



- Public Sector
- Solution Provider
- DevOps Services Competency

- Financial Services Competency
- Migration Services Competency

## Contact us

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Find out how InferIQ solutions can help your business. Contact us today!

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