

How OCR Generates a 4.5x Return



About

This case study is produced by JQ Creative Company LLC.

Contact Jovan@JQCreative.co for any inquiries.

Overview of OCR

Core to the way we generate a return for our clients is a technology referred to as *Optical Character Recognition (OCR)*. This technology allows for a machine to easily interpret X-Rays, Handwriting, and Financial statements.

With the advent of Artificial Intelligence, OCR has realized an incredible jump in accuracy and sophistication. This advancement is what enables us to build systems which can automatically process a high volume of financial statements.

How We Build & Why It Matters:

Fundamentally we believe in building reliable systems by always returning a predictable result. This reliability builds a sense of trust with your organization allowing you to realize the efficiency gains through your line of business.

Today, most organizations use Large Language Models (LLMs) with *mostly* predictable results. While this process does deliver initial efficiency gains, a human still has to verify the response leading to hidden waste over time.

Image Details:

The image below shows a financial statement on the left & a data structure on the right. The data structure guides the LLM in what information to retrieve.

Apple Inc.		
CONSOLIDATED BALANCE SHEETS		
(In millions, except number of shares, which are reflected in thousands, and par value)		
ASSETS:	September 30, 2023	September 24, 2022
Current assets:		
Cash and cash equivalents	\$ 29,965	\$ 23,646
Marketable securities	31,590	24,658
Accounts receivable, net	29,508	28,184
Vendor non-trade receivables	31,477	32,748
Inventories	6,331	4,946
Other current assets	14,695	21,223
Total current assets	143,566	135,405
Non-current assets:		
Marketable securities	100,544	120,805
Property, plant and equipment, net	43,715	42,117
Other non-current assets	64,758	54,428
Total non-current assets	209,017	217,350
Total assets	\$ 352,583	\$ 352,755
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	\$ 62,611	\$ 64,115
Other current liabilities	56,829	60,845
Deferred revenue	8,061	7,912
Commercial paper	5,985	9,982
Term debt	9,822	11,128
Total current liabilities	145,308	153,982
Non-current liabilities:		
Term debt	95,281	98,959
Other non-current liabilities	49,848	49,142
Total non-current liabilities	145,129	148,101
Total liabilities	290,437	302,083
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, \$0.00001 par value: 50,400,000 shares authorized; 15,550,081 and 15,943,425 shares issued and outstanding, respectively	73,812	64,849
Accumulated deficit	(214)	(3,068)
Accumulated other comprehensive loss	(11,452)	(11,109)
Total shareholders' equity	62,146	50,672
Total liabilities and shareholders' equity	\$ 352,583	\$ 352,755

See accompanying Notes to Consolidated Financial Statements.

Apple Inc. | 2023 Form 10-K | 30

```

{
  "documentType": "Consolidated Balance Sheets",
  "company": "Apple Inc.",
  "reportingContext": "In millions, except number of shares, which are reflected in thousands, and par value",
  "currency": "USD",
  "reportingDates": {
    "current": "September 30, 2023",
    "prior": "September 24, 2022"
  },
  "assets": {
    "currentAssets": {
      "totalCurrentAssets": 143566,
      "totalCurrentAssetsPriorYear": 135405,
      "details": [
        {"item": "Cash and cash equivalents", "value": 29965, "priorYearValue": 23646},
        {"item": "Marketable securities", "value": 31590, "priorYearValue": 24658},
        {"item": "Accounts receivable, net", "value": 29508, "priorYearValue": 28184},
        {"item": "Vendor non-trade receivables", "value": 31477, "priorYearValue": 32748},
        {"item": "Inventories", "value": 6331, "priorYearValue": 4946},
        {"item": "Other current assets", "value": 14695, "priorYearValue": 21223}
      ]
    },
    "nonCurrentAssets": {
      "totalNonCurrentAssets": 209017,
      "totalNonCurrentAssetsPriorYear": 217350,
      "details": [
        {"item": "Marketable securities", "value": 100544, "priorYearValue": 120805},
        {"item": "Property, plant and equipment, net", "value": 43715, "priorYearValue": 42117},
        {"item": "Other non-current assets", "value": 64758, "priorYearValue": 54428}
      ]
    },
    "totalAssets": 352583,
    "totalAssetsPriorYear": 352755
  },
  "liabilitiesAndShareholdersEquity": {
    "currentLiabilities": {
      "totalCurrentLiabilities": 145308,
      "totalCurrentLiabilitiesPriorYear": 153982,
      "details": [
        {"item": "Accounts payable", "value": 62611, "priorYearValue": 64115},
        {"item": "Other current liabilities", "value": 56829, "priorYearValue": 60845},
        {"item": "Deferred revenue", "value": 8061, "priorYearValue": 7912},
        {"item": "Commercial paper", "value": 5985, "priorYearValue": 9982},
        {"item": "Term debt", "value": 9822, "priorYearValue": 11128}
      ]
    },
    "nonCurrentLiabilities": {
      "totalNonCurrentLiabilities": 145129,
      "totalNonCurrentLiabilitiesPriorYear": 148101,
      "details": [
        {"item": "Term debt", "value": 95281, "priorYearValue": 98959},
        {"item": "Other non-current liabilities", "value": 49848, "priorYearValue": 49142}
      ]
    },
    "totalLiabilities": 290437,
    "totalLiabilitiesPriorYear": 302083,
    "shareholdersEquity": {
      "totalShareholdersEquity": 62146,
      "totalShareholdersEquityPriorYear": 56722,
      "details": [
        {"item": "Common stock and additional paid-in capital", "value": 73812, "priorYearValue": 64849},
        {"item": "Accumulated deficit", "value": -214, "priorYearValue": -3068},
        {"item": "Accumulated other comprehensive loss", "value": -11452, "priorYearValue": -11109}
      ]
    },
    "totalLiabilitiesAndShareholdersEquity": 352583,
    "totalLiabilitiesAndShareholdersEquityPriorYear": 352755
  }
}

```

Once we have a machine readable object we are able to integrate the data into already existing systems. From this point forward, automation can continue.

Above and Beyond Complexity:

Our strong understanding of financial operations allows us to go a step further for our clients.

For example, most developers understand that from company to company financial statements change. However, most engineers aren't able to anticipate why quarter over quarter, the same company would report different line items on their reports (to calculate EBITDA).

This distinction, while small, is a critical detail for building scalable and profitable systems.

How OCR Works (Technical) :

Modern OCR works by leveraging the vision component of Large Language Models.

- **Step 1: Image & Prompt Ingestion**

- The document is converted into an image, then split into a grid before each segment is individually analyzed.

- **Step 2: Embedding**

- The individual grids are converted into a statistical representation.
 - These statistical representations are then compared against the models training

- **Step 3: Cross Model Attention**

- To get an accurate output, the LLM compares the representations against themselves, their neighbors, and the sentence in its entirety.
 - The characters are also compared against the prompt given by the user.
 - This gives the model a full context of the document being read

- **Step 4: Text Generation**

- The model then outputs a final sequence of tokens in the format of a machine-readable object

Case Study: More Funds = More Bottomline

About:

This case study demonstrates how we increased analyst capacity 4.5x times by taking an operation that typically took 31.5min down to 7min. We can assume the client is a CLO manager.

Part 1: Operational Capacity

Current Capacity:

Analyst Team: **5**

Total Companies Managed: **400**

Total Funds: **25**

Analyst Workload: 400 companies/ 5 Analysts = **80 Companies per Quarter**

Team Status: **100% Capacity**

Net New Capacity:

Capacity Multiplier: **4.5x** per analyst

New Analyst Capacity: **360 Companies Per Analyst** ($80 \times 4.5 = 360$)

New Total Department Capacity: **1,800 Companies** (360×5)

Net New Capacity: **1,400 new companies**

Analysis:

Let's assume you want to launch a new fund rather than expand your current portfolio. The 4.5x efficiency gain can be relocated.

Your existing 400 companies can be managed by 1.1 analysts*.

Giving you back 3.9 analysts to work on the launch of a new fund.

*This assumes a 40/hr a week schedule

Part 2: Generalized Revenue Model

To keep the demonstration simple we assume each of the net new companies leads to an additional \$1,000,000 AUM.

Your Firm's Variables (Example):

- [A] Average AUM allocated per company: **\$1,000,000**
- [B] Your firm's management fee (BPS): **100 BPS (1.0%)**
- [C] Annual Revenue per Company (A x B): $\$1,000,000 \times 1.0\% = \$10,000$

Calculating Your Potential New Annual Revenue:

- [D] Net New Company Capacity (from above): **1,400**
- [E] Potential New Annual Revenue (C x D): $\$10,000 \times 1,400 = \$14,000,000$

Part 3: Conclusion

Technology & Finance when properly merged together does lead to an increased bottom line. At the time of writing (November 2025), most firms are still in the initial stages of evaluating AI solutions.

It is important to understand that Artificial Intelligence has created an opportunity to increase the activity of your firm, without having to increase department headcounts.

As the market continues to mature, the window of time to capitalize on this opportunity closes at an accelerated rate.

Next Steps:

We offer the financial services industry a zero-cost evaluation.

This allows us to build a production grade Proof Of Concept. During this time we get a sense of how your business operates. This leads to a profitable and efficient deployment to production.

Contact Jovan@IQCreative.co to get started.