

Tech Talk: How OCR Adds Value to Your Organization

White Paper

TUNGSTEN
AUTOMATION



Table of Contents

- 3 Introduction
- 4 Recognizing the Value in OCR
- 4 6 Character Traits to Look for in an OCR Solution
- 7 Conclusion

Tech Talk: How OCR Adds Value to Your Organization

Introduction

Optical character recognition (OCR) has been gaining worthy “recognition” as of late, with the global market size expected to reach [\\$33.44 billion by 2030](#).

But is it a worthy investment? The short answer is “yes.”

Regardless of what industry your customers are in, OCR can add value to the solutions you’re building for them, giving both of you a clear competitive advantage.

Banks and other financial institutions can use OCR to process loan applications, onboarding forms and other documents to improve security and fraud detection. Transportation and logistics companies can leverage OCR for invoices, packaging labels and receipts to improve efficiency, accuracy and productivity.

Healthcare organizations can improve patient care, reduce the workload on staff and better comply with privacy regulations by using OCR to process patient records, test results and insurance claim files. Companies operating in the retail or supply chain space can use OCR for invoices, supplier contracts and purchase orders to improve productivity and cash flow. Law firms can use OCR to edit, search and securely store documents from legal cases, making the information in those files more readily accessible to all people who need access to it, regardless of physical location.

To truly differentiate your solution in the market, however, two things are required.

1. It’s important to fully understand all of the value OCR brings to the table. This knowledge will help you get the most out of the technology and gain buy-in from the executive level.
2. A fully informed decision about which OCR vendor to use can make all the difference between a pretty good solution and a stand-out one.

This white paper provides guidance on both topics, so you can maximize the value of OCR for your organization.



Recognizing the Value in OCR

Companies in every industry deal with documents – from invoices to customer forms. While many organizations see the benefit in going paperless, scanning all of these forms can be time consuming. Plus, the scanned image often contains text in images and tables that may not be searchable by the business software and applications that need access to this data.

OCR technology solves this issue by turning paper and digital documents into files that can be edited, searched and shared securely – almost instantly.

Best-in-class OCR technology lets you build solutions that contribute to your organization's long-term success through:

- **Competitive advantage:** The addition of OCR to your solutions differentiates your offerings from others in the market, giving you a clear advantage over competitors
- **Improved customer satisfaction:** The enhanced features of OCR enable developers to provide higher value to customers with a full document processing solution that doesn't depend on external software and has minimal programming requirements
- **Increased revenue:** When you can create more powerful, market-leading solutions for your customers, sales increase, boosting the bottom line
- **Faster ROI:** Improved sales will contribute to a faster return on investment in an OCR solution, maximizing the advantages of investing in this type of technology

But the advantages don't stop there. They trickle down to your customers thanks to:

- **Cost savings:** Automatic extraction, validation and classification eliminates the time and cost associated with manual document processing and data entry. Going paperless delivers additional cost savings related to storage and printing
- **Improved productivity:** Paper documents create bottlenecks when it comes to searchability and access. OCR removes these bottlenecks, so data can be accessed faster, boosting productivity and efficiency
- **Improved accuracy:** Manual entry comes with a higher likelihood of errors. Leading OCR solutions deliver high accuracy rates, improving the overall quality of data
- **Better access to data:** Customers benefit from a complete view of the data locked away in their image-based documents, such as invoices and contracts. The information in OCR-processed files is also more easily accessible, as it can be searched, viewed, edited and shared
- **Accelerated digital transformation:** A scalable and reliable OCR solution makes it possible to streamline document processing applications and speed up digitization across business workflows

Optical character recognition (OCR) has been gaining worthy "recognition" as of late, with the global market size expected to reach \$33.44 billion by 2030.

Wondering how the technology works? At a high level, OCR uses computer vision (CV) and artificial intelligence (AI) algorithms to convert images of text, tables and pictures into digitally encoded documents that can be used in computer systems and applications. Industry-leading OCR software also has the ability to recognize tables and other diagrams, so all of the data in the document is accessible.

It does this through a [series of steps](#).

- **Image pre-processing:** The base image is enhanced into the best version of itself for improved accuracy
- **Layout analysis and zoning:** The image is broken up into different logical zones. Text regions are separated from images and are divided into columns, paragraphs and text blocks. Non-text pixels like images are identified, and tables are detected
- **Text recognition:** The text is recognized in multiple, interconnected steps using CV and AI algorithms. The extracted data is converted into a computerized file

While modern OCR solutions are quite advanced, you don't need to understand how all of the technology works behind the scenes. It's more important to recognize how it can upgrade the solutions you're building.

Once you understand the value, it's time to maximize it – both for your organization and your customers.

6 Character Traits to Look for in an OCR Solution

The key to getting the most out of adding OCR to your solutions has a lot to do with making the right choice during the vendor selection process.

There are many solutions and providers to choose from, including some open-source options. And as is the case with any technology, all options are not created equal. While a free solution may be nice in terms of budget, it also may not deliver what you need in terms of accuracy, security and reliability.

Your decision will have impacts that cascade throughout the organization, including costs, productivity, sales and overall customer satisfaction. With that in mind, you need a vendor who not only provides modern capabilities and features, but who will also be your long-term partner – a team of experts you can count on for support and a company committed to innovation.

The evaluation process can be overwhelming, but when you have a solid understanding of what an industry-leading OCR solutions look like, the decision process becomes simpler.

This checklist outlines the top six character traits to look for in an optical character recognition provider. You can use it to more easily recognize the vendors that will drive the most value for your solutions and applications.

You don't need to understand how all of the technology works behind the scenes. It's more important to recognize how it can upgrade the solutions you're building.

1. Accuracy

One of the most critical aspects of an OCR solution is its accuracy.

Your end customers will demand high accuracy scores from a commercial product. If you're not able to deliver accuracy scores in the mid to high 90s when it comes to percentage averages, you risk being at a competitive disadvantage in the market.

While this is important to all of your customers, it's especially critical for those operating in industries governed by strict regulations, like financial services, legal and healthcare.

There are a few things to keep in mind when assessing the accuracy of an OCR solution.

As PDFs and other documents are converted, the OCR software must ensure all text and characters are transferred over, all spelling and punctuation are correct and all formatting (columns, tables, graphics) is converted.

Other features to look for when it comes to accuracy include a scalable voting interface and significant throughput management capabilities. For superior flexibility and accuracy, look for software that has recognition engines for:

- Highly accurate machine-print OCR
- Handprint (ICR)
- Checkmark (OMR)
- Barcode (1D and 2D)

Capabilities like these let your customers know that when they share, access and edit documents, they're viewing all of the original (and correct) information.

2. Performance and scalability

After accuracy, overall performance is likely the next item on your customers' list of priorities. When they think about performance, speed is often the first thing to come to mind. Documents must be converted quickly, without sacrificing accuracy.

All vendors should offer a free trial, so you can run various tests and determine how many documents can be converted per hour, as well as the amount of human intervention required during the process.

Look for OCR technology that comes with multi-threading support so multiple concurrent tasks can be executed in a single process. Your customers will value the improved throughput as well as the faster application and server responsiveness. Plus, multi-threading support also minimizes system resource usage – an additional selling point.

While a free solution may be nice in terms of budget, it also may not deliver what you need in terms of accuracy, security and reliability.

Container-based development is another must-have, as it streamlines the development process. Containers make it possible to deploy and patch applications more rapidly and at scale. This approach also uses fewer system resources, and they're portable. It's important to note that teams that follow the agile development cycle will appreciate the container approach.

Some vendors also provide innovative capabilities that allow developers to create reliable, long-running document processing applications that can automatically scale up and take advantage of all or the designated CPU power of a multicore machine – with little programming work.

Another feature to look for when it comes to performance and scalability is the ability to add OCR capabilities to any platform. Support for Windows, Linux, Embedded Linux and Mac is a sign of a quality vendor.

3. Robust feature set

Feature-rich OCR software lets your team build solutions that will stand out in the marketplace and meet all of your customers' needs. There are several capabilities sure to give your products a competitive edge.

- *Support for a broad range of output formats:* Your customers use a variety of document programs and formats. The OCR solution should support a wide range of image and application formats, including BMP, GIF, TIF, PF, HTML, Microsoft Office formats, TXT, XML and ePub. Support for hOCR and ALTO output standards are also nice-to-haves
- *Advanced forms processing capabilities:* The ability to offer your customers complete forms processing applications allows them to easily define form templates for all the document types they need to process
- *Innovative document classifier:* Given the variety of document types and layouts, categorizing them can be a challenge. Some OCR engines have a module that allows users to sort documents based on layout and/or textual similarities. A trainable tool like this can be used to improve efficiencies in many business processes, including mailroom automation, email forwarding, form processing and data extraction
- *Integrated PDF toolkit:* Advanced PDF capabilities can reduce development costs and let you get to market faster. For example, some vendors have a PDF overlay matching that can achieve up to 100% accuracy in PDF conversion. Support for output to all PDF/A-4 levels is also ideal. PDF supercompression can generate PDF-MRC (mixed raster content) files that are optimized for both size and quality. Customers save storage space and reduce bandwidth consumption, while benefiting from the highest quality output
- *Intuitive APIs:* Simple APIs keep your team productive, allowing them to build applications and retain control over the characteristics of the recognition and conversion processes. APIs should also be versatile and support a number of programming languages like C/C++, .NET, C#, VB.NET, Java and Python
- *Enhanced image clean-up and table algorithms:* OCR solutions with advanced algorithms and parsing logic deliver the highest quality images and are more adept at handling tables with complex headers, merged cells, financial tables, overrun columns and tables with faint grid lines – all issues your customers likely have in their documents

While this (accuracy) is important to all of your customers, it's especially critical for those operating in industries governed by strict regulations, like financial services, legal and healthcare.

- *Extensive language support:* Global customers need multi-language support, so a solution that can detect multilingual content can set you apart. Some vendors support more than 100 languages, including Arabic, Hebrew, Traditional and Simplified Chinese, Vietnamese, Korean and Thai. Beyond current support, look for a provider that's constantly working to improve the handling of multilingual content so you can increase your global reach

4. Support

An OCR vendor that delivers a great solution but falls short when it comes to support is not going to help you meet your customers' needs. Your development team may need some extra guidance during the integration process, or you may need a very specific feature or capability to make your application stand out in the market.

While it's pretty much a given there's little to no support with open-source solutions, many commercial options don't offer the depth and breadth of support you're likely to want. Ideally, the vendor should have a support team available to you throughout the entire process, from planning to launch and maintenance.

Questions to ask your vendor include:

- What type of assistance do you provide during design and architecture?
- If there is a mission critical issue, will you be available to help address it?
- Do you provide assistance in fixing bugs?

Answers to questions like these can help you weed out vendors that lack the level of support you need to ensure long-term success.

5. TAA Compliance

If some of your customers are in the government space, then compliance with the United States Trade Agreement Act (TAA) is something to keep on your radar. If you opt for an OCR engine that was developed in a non-TAA country, you're going to lose out on government contract deals.

To avoid this risk and maximize your reach, be sure to choose a vendor that is fully TAA compliant. This will be a big selling point for some of your customers and has the potential to expand your customer base.


6. Vendor expertise and reputation

Taking a close look at a vendor's history and track record is a great way to narrow down your search. Real-world results, longevity and expertise in the market and a history of success are all tell-tale signs of a strong partner.

Research how long they've been in business. Take a look at their customer base and look for case studies or testimonials. Ask if they provide warranties on their products.

It's also wise to spend some time evaluating the overall depth and breadth of their solutions. This will provide insight into their level of expertise. During this part of the process, find out if they're just resellers of the OCR technology or if they've designed their own in-house proprietary technology. Obviously, the latter is preferred, as it speaks to the vendor's ability to support your needs now and in the future.

As you dig deeper and ask questions, you should get a sense of which vendors have the potential to be true partners committed to helping you succeed.



When they think about performance, speed is often the first thing to come to mind. Documents must be converted quickly, without sacrificing accuracy.

Conclusion

Your customers scan documents – and that isn't going to change. But the way your customers process these documents is changing.

Adding OCR to your solutions gives your customers an efficient and reliable way to handle scanned documents and images, improving productivity and reducing costs. When you understand all of the advantages OCR delivers and how to recognize a powerful solution, you can accelerate your customers' digital transformation while accelerating your own business ahead of the competition.

To learn more about powerful OCR solutions to empower your digital workflow, visit [OCR.com](https://www.ocr.com)



About Tungsten Automation

Tungsten Automation, formerly Kofax, is the global leader in intelligent automation solutions with a trusted legacy of nearly 40 years, with a team of 2,000+ employees in 40 countries, serving 25,000+ global customers. Our dedication to innovation and customer success has earned us industry recognition, including being named a leader in Intelligent Automation (IA), Intelligent Document Processing (IDP) and Process Orchestration by top analysts. We are trusted to help businesses gain unprecedented efficiencies and reduce costs through AI-powered workflow automations that propel their businesses into the future.

To learn more, visit www.TungstenAutomation.com

www.TungstenAutomation.com

