

Insurance Processes Optimized for Cost, **But At-Risk for Disruption?**

*Document automation as
a tactic to improve agility
while reducing risk and cost*



Overview: How to Pick All the Low Hanging Fruit

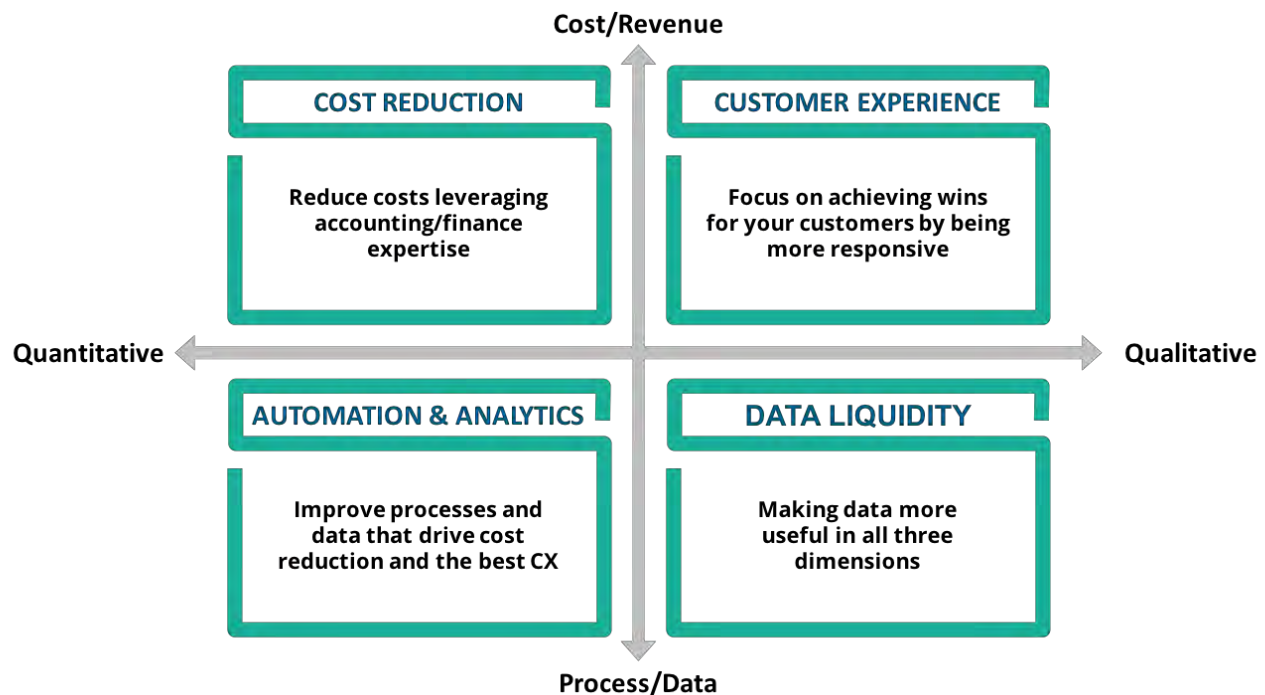
What is available to insurance companies to reduce costs now and in the near-term? Insurance companies are being asked to pare down their budgets. Trim budgets, look at cost saving projects, do more with less. Scaled-down budgets require making incremental improvements, no big bangs. Projects must have a solid return on investment. This eBook provides some food for thought on areas that may have been overlooked because the problem did not appear to be low hanging fruit. It offers some very practical opportunities for optimization across life insurance, P&C and health insurance.

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Four Dimensions of Quick Wins

W. Edwards Deming has a powerful quote. Many credit Deming as one of the inspirations for the Japanese post-war economic miracle between 1950 to 1960. Deming created the manufacturing model for Japan that is still used today by companies like Toyota and Sony. He said, "All models are wrong; some models are useful." The following model may be useful to you as you consider quick wins and low hanging fruit.



There are four basic dimensions to quick wins. Let's start with the four dimensions and then dive into the four quadrants. From left to right you move from the measurable to the less measurable. From top to bottom you move from issues focused with decreasing costs or increasing revenues to foundational pieces that provide capabilities to grow the business or make it more efficient in the future. Starting in the upper left (Quantitative Cost Reductions), almost everyone agrees that quick wins must reduce costs. This may seem obvious, but what might not be obvious is that a solid business case is required to determine the best quick-win candidate. Since most people are not accountants, make certain there is an accounting or finance person on your team. This is a numbers game. Internally, these projects are the easiest to sell since the ROI is typically compelling.

Looking at customer experience, you can also improve revenues by focusing on wins for the customer. Wins in this area are important to revenue, but a little harder to measure. Projects that make your company easier to work with, faster and more responsive will ensure “stickier” and more loyal customers. These wins are quality related. This also applies to your employees, improving the employee experience improves your customer’s experience. Improving customer onboarding, sales payment methods and fulfillment are good examples of this.

As we move below the line, we are focused on enablers. The automation and analytics dimension is about improving processes and data that might drive cost reduction or customer experience. This is an area of focus for a number of companies these days, Intelligent Document Capture and Robotic Process Automation (or RPA) are good examples. Automation is about process. Find an industrial designer for your team. Befriend your Business Analysts. Areas to consider for automation are the mailroom, incoming faxes, inbound claims and complaint management.

Finally, we have the concept of data liquidity. Making data more fluid, more useful in all three other quadrants can result in some major quick wins such as turning data locked on paper and fax documents into usable data. This data is a treasure trove that can help reduce costs, improve experience while supporting analytics and automation.

What Do Quick Wins Look Like?

What do quick wins look like? Here are four quick wins that we have been seeing in our work with customers:

- 1. Large quantities of unstructured data (documents & Faxes).** Shockingly, unstructured data still flourishes at insurance companies. A common example is a handwritten application. Handwritten forms typically are keyed. This Medicaid application forms created a crisis in Illinois because our state could not hire enough people quickly enough to key in all the applications for Medicaid recipients who changed plans. The truth is we need the data from forms that come from a variety of sources. This unstructured data is a huge opportunity.
- 2. Data entry remains all too common.** Data entry is a low value-add activity that introduces the opportunity for error, slows down processes and is expensive. Tackling data entry with technology is a great way to reduce costs and improve processes. I am still surprised when we walk into data entry shops with dozens of people keying data from paper or images.

3. **Business Process Outsourcing has been a common strategy for 20-plus years.** How often do we revisit those arrangements, look at the numbers and consider whether insourcing might make sense? Insourcing can speed processes, reduce costs and improve process control. One recent project involved a customer that outsourced health claims data entry some years ago and is now looking to insource at a huge savings.
4. **Deadlines, Service Level Agreements and process speed also provide some quick wins.** Are there areas that are often running behind on their SLAs? Sometimes this results in penalties and interest. Perhaps it is a source of risk and irritation for customers, brokers, agents, providers or other vendors. Companies like Amazon have set the standard for speed and delivery. Customers now expect quick turnarounds and transparency in their interactions with insurance companies.

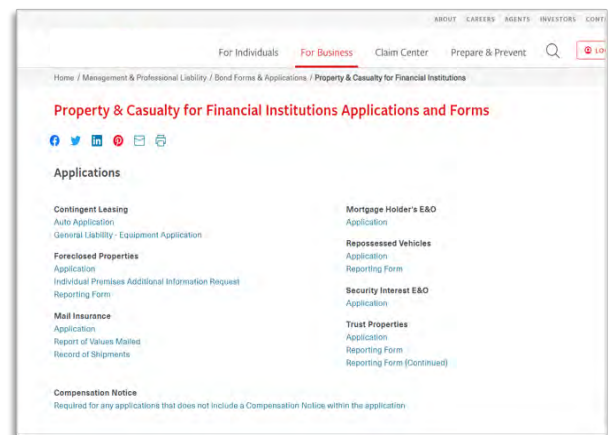
Let's dig a little deeper with some specific scenarios that are often hidden from view.

Hidden Areas for Quick Wins

Forms from Handwritten to Machine-print

Forms are everywhere and remain a common way to interact with insurance customers, partners, agents and others. How many forms are on your website?

Most insurance carriers have hundreds of unique forms on their websites to meet their customers' needs. Many of the forms are in MS Word format, requiring that they be printed, filled out and mailed or faxed to be submitted. Do you know what handwritten forms your organization receives and how many they receive?



Forms can be a great source of quick wins

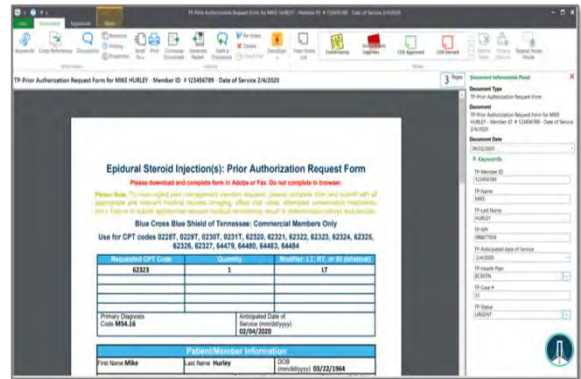
Where do these forms come from? How do they come in (paper, fax, portal...)? This information can lead you to some quick wins. A quick win might be gathering this information about Claims, Applications, Enrollments, Changes and Terminations and conducting a proof of concept.

Find out if your Intelligent Document Capture can use handwriting recognition and AI to read the forms and hand off the data to your systems. Perhaps, you can automate a manual process and achieve some straight through processing with relatively minimal investment.

Enterprise Content Management (ECM)

Even today, it is surprising how few mailrooms and capture operations are digitized. Even fewer organizations are automating paper, fax or email receipts that go into the ECM, workflow systems or Systems of Record.

This is very low hanging fruit. One organization - typical of our customers - was receiving records via paper, email, CDROM and fax. Some records were printed and scanned. They all ended up with people keying data to index the records in ECM, workflow or systems of record. Often, there are multiple data entry points for the same document. The image to the right is a *recreated prior authorization form* for a health insurance company. Like many forms, it has attachments that may include medical records or other vital information. With Intelligent Capture, you can read scanned paper, faxes and email to automate storage in an ECM, launch data into the workflow and hand off the data to important systems.



Intelligent Capture reads scanned paper, faxes and email to automate storage in an ECM



Intelligent Capture reads and routes faxes for straight-through processing

Faxes

Another great area to look for quick wins is incoming faxes. Faxes are often overlooked as an opportunity to reduce costs, speed processes and improve data quality. A large insurance customer who we worked with recently was sending and receiving over *11M fax pages per year*. Our work on the topic found that an inbound fax cost the customer anywhere from \$5-15. That's real money, and they are definitely not alone. According to Mark Malone from [Fax2020](#) (quoted in this [webinar at 5:36](#)), "A profound driver for future fax market growth is in the business of fax automation, especially the capture and routing of inbound faxes. The objective is to trigger event-driven workflows – process, store and forward to designated locations – all based on the content embedded in the fax."

This quick win with faxes uses automation to read, learn and route faxes for straight through processing, sometimes with RPS, ECM or workflow. A model that that we see working for customers is the "Digital Doorman" and "Single Front Door." In this model, all inbound "unstructured data" comes in a single entry point - or via the front door - and is greeted by an [AI Digital Doorman](#) that is empowered to read, extract and route information to people and systems automatically.



Back Office Functions

Back office functions provide a great opportunity to automate costs out of the business. For many organizations we talk to, this is not the first place they look. Often the perception is that these areas are cost centers without much savings opportunities. This is incorrect. Many processes have likely not been examined for years. A common automation opportunity

is for Accounts Payable (AP) invoices. Intelligent Capture and AI are particularly good at reading invoices. Unfortunately, there is still a ton of paper coming in for AP. We recently worked with an organization that needed to confirm that they had the correct HR documents for each employee. There are some forms that still are paper like the I-9. The solution read through each folder confirming that the document existed, was filled out correctly and matched the HR system's data. We still get paper checks as well. Checks can be read and deposited through the use of intelligent capture. Nothing warms an accountant's heart like speeding up cashflow. There are other savings like sales orders that come in via fax and email. The key is to see if there is any low hanging fruit in the back office.

Health Insurance Opportunities

Healthcare in general - and health insurance specifically - still receive amazing amounts of paper and faxes that they need to automate. Robotic Process Automation is a common tool to apply to many of these processes, but we have to turn the paper and fax images into usable data via intelligent capture to drive automation opportunities. Some common challenges:

- **Health Claims, especially Black & White 1500's.** These are very tough and many organizations simply outsource and key them. Intelligent capture can read these just fine.
- **Medical Records.** We completed a project reading medical records using Machine Learning. It went well with a compelling read rate and solid percentage going straight through.

- **Prior Authorizations** is a challenge for patients, providers and insurance companies. 95% are faxes today. We have been working on projects to take these forms and their attachments and turing them into data that is usable for clinical systems.
- **Claim Appeals** is another area for quick wins. These are tough and typically faxed. We created a solution that we call "Appealinator" to read and turn appeals into cases that can be worked in an automated workflow. If you deal with complaints from customers, partners, agents and brokers, this is a great area for automation.

New Process Framework Selection

While we still have the obvious criteria for functional requirements, capability, capacity, accuracy and throughput, there are a host of other considerations that heretofore were not addressed as primary decision factors. Now, perhaps more than ever, dependency on human interaction in the capture role has been spotlighted as a primary risk. Even though labor rates across the globe have normalized, a change in the exchange rate can have significant effect on cost & profitability. As evidenced by the pandemic, you can suffer a significant loss of personnel overnight. With such a dependency on humans in the loop, production is greatly affected since you are either short staffed or are training new people to your application with the associated ramp times. Accuracy, throughput and profitability all suffer. The focus on Smart Learning and straight through processing takes on a whole new meaning in this light.

Framework Selection Criteria	Best	Maybe	Little ROI	Forget	Next Best	Risky
Data Accessibility	High	High	High	Low	Low	Low
Process Repeatability	High	High	Low	Low	High	Low
Process Value	High	Low	Low	Low	High	High
Reliance on Labor	High	High/Med	Low	Low	High	NA

New Framework including process disruption risk

Know What to Measure

Establishing success criteria and measurement metrics are critical to a POC or solution selection. However, before we even get started, we should determine how much of a lift in throughput or increase in productivity it takes and where you expect it to originate.

If you are already running at high efficiency and throughput, how much more automation can you expect? What's the overall benefit and at what cost? We need to know specifically what the cost/benefit is overall. While a solution may be more effective or efficient on a per transaction basis, deployment time or Time to Live, adoption costs, etc., may turn it into a zero-sum game with respect to ROI. And simply, it may not be worth the effort.

Successful Receipt-level Extraction	Outcome
1 field	98+%
2 fields	85+%
3 fields	50%
4 fields	25%
5 fields	<15%

Successful Field-level Extraction	Outcome
95% of all Fields	80+%
85% of all Fields	85+%
75% of all Fields	~90%
50% of all Fields	>95%

Multi-field extraction must be measured at the field level

The old metrics of measuring read rates and accuracy ratios of OCR are simply not adequate any longer to establish the viability and contribution of an advance capture process. The introduction of separating and stratifying document classification and data extraction as independent measurements is still new to some and is quite important as an assessment methodology. The critical aspect is to remember that when it comes to extraction effectiveness, you must measure it at **the field level**.

Proof of Concept: Input Data is Crucial

"Input Data is crucial" is an understatement in today's world of Machine Learning and AI. At Parascript, we have always approached our document capture capability, functionality and results goals from a data science perspective. The other aspect to consider is: to effectively train the system through machine learning, it takes a lot of samples and associated data. Anyone who says they can train a system to a high degree of performance on a handful of samples is either misleading you or naïve.

It simply cannot be done. At Parascript, we have created tools that analyze sample data and its associated Truth Data as part of our initial machine learning sessions. Many faces the difficulty of reconciling work in progress or WIP reports against cost performance results.

Number of Samples	Amount of Automation
10 Samples	Not more than 5%
100 Samples	Not more than 50%
1000 Samples	Not more than 70%
2000 Samples	Not more than 85%
5000 Samples	>85%

Representative sample sets must include document types and document variance

It takes a lot of data to effectively train a system. But this is exactly what reduces man months or man years of development and testing to literally days of compute time.

Not All “Machine Learning” is Real

One statement is certain, “Not all machine learning is real.” There is so much noise in the industry about machine learning and artificial intelligence. The entire goal of using machine learning in the configuration and training of the system is to drive down dev/test costs and get to User Acceptance Testing as quickly as possible. The faster you get into production – or “Time To Live” – the sooner you take advantage of the benefits and savings the solution can provide. The more you can reduce the dependency on highly skilled and proprietary technical resources, the more risk you mitigate relative to the human component.

In our work, we have discovered that customer supplied “Truth Data” is very often flawed. We have seen data sets that are supposedly 100% verified be off as much as 9-15%. How can that happen? Because the data is being curated by humans with the inherent error rate present there. How many times do you run the result set through for validation and error correction? What is the point of diminishing returns when it comes to data accuracy and the cost to attain it? This presents a couple of issues:

Faulty truth data, especially that believed to be without error, can significantly skew the learning model. This reduces the advantage of machine learning.

It means the existing cost models are inaccurate relative to potential benefit and gain. In other words, the benefit per percentage gain in throughput and error reduction is likely to be greater than initially calculated.

Attended or rules-based engines are extremely susceptible to human error. If a person creates an empirical rule that is in error, the entire solution now executes that error at machine speed. Correcting these errors and their impacts downstream can become a monumental effort.

At Parascript, we leverage unattended machine learning in our systems. Not only do we take the operator corrected information, we also consider all the output information analyzed through data science.

This means that an operator induced error becomes statistically insignificant in the overall data set and is offset the next time the result is accurately recognized or correctly validated. We call this “Smart Learning” and it provides near real-time adaptability in production.

New Elements in Evaluations

In light of recent global events, it is increasingly apparent that we must be able to move work around and adapt to a much more volatile business and work environment. In the end, it is all about Resource Optimization, Force Multiplication, Flexibility and Nimbleness. Recent events have shown us that there may be massive swings in volumes both increasing and decreasing as well as extreme disruption of the traditional work environment. The ability to work remotely is now a standard contingency agenda item.

Workforce dispersment is no longer a nice to have, but a requirement. The office space in today's world is just as likely to be in the home, and the home could be anywhere. Smart Learning mitigates the training requirements for supplemental or temporary replacement staff and provides a smoother adaptation to changes in volume and complexity as well as providing the opportunity for a new person to attain productivity in a much shorter timeframe.

Solution Delivery: Set It Up for Success

Let's look at the life cycle for software, systems or solution delivery. It's an effective model that provides for high degrees of success. Incorporated in the model are the standard testing protocols that must be addressed to produce a legitimate and sustainable business solution.

Here it may be useful to adopt of W. Edwards Demming's famous quotes. That is to say: "If you can't describe what you are doing as a process, you don't know what you are doing."

Enhanced Testing

Recent events and new scenarios demand that additional considerations be added to the testing criteria. The ability to adapt to new forms or forms with modifications is critical to respond to the market, workflow or process needs. Normal cyclical processing cycles can be dramatically affected without prediction in light of recent events. During a pandemic, we see an ebb in some document volume, but an exponential increase in others such as medical.



From a clinical document support standpoint, medical records, lab requests, etc., increase as well as the attendant increase in medical insurance. Whether it's a hurricane, tsunami, earthquake or pandemic, we must have the ability to virtually move our work force around and be able to reduce the amount of specialized training required to facilitate the application. Automation of some of the most basic tasks can offer tangible quick wins. These are just a few of the opportunities for real optimization across life insurance, P&C and health insurance that can offer significant savings to your organization now and in the near term.

About BRYJ, Inc.

BRYJ delivers services and solutions that transform processes within and between health plans, hospitals and other healthcare businesses. These services and solutions aim to turn documents into data, enabling processes that lower costs, improve customer experience and speed clinical and administrative processes. We have worked with health plans for over 20 years, focused on creating world-class processes through business process transformation consulting and solutions. Visit [BRYJ](#).

About Parascript, LLC.

Parascript automates the interpretation of meaningful, contextual data from image and document-based information to support transactions, information governance, fraud prevention and business processes. Parascript provides Smart Learning advanced capture for any document with any data from any source with its easy-to-use, image-based analysis, classification, data location, data extraction and verification technology. More than 100 billion documents for financial services, government organizations and the healthcare industry are analyzed annually by Parascript software. Parascript offers its technology both as software products and as software-enabled services to our partners. Our BPO, service provider, OEM and value-added reseller network partners leverage, integrate and distribute Parascript software in the U.S. and across the world. Visit [Parascript](#).

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