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Invoice
2017001
Jan 14 2017

The Coca-Cola Company
Atlanta
GA 30301
United States

ed Bills Ltd, UK

Johnson
wning Street 14, London

		LINE TOTAL
RATE	HOURS	$150.00
	3 HRS	
$50/HR		$400.00
	8 HRS	

TASK / DESCRIPTION

Online Marketing
Discussing strategy, setting new goals

$50/HR		$250.00
	5 HRS	
$50/HR		

Design
Preparing design of homepage.

$800.00

ode
page

16 HRS

5 BENEFITS OF ARTIFICIAL INTELLIGENCE IN INVOICE DATA CAPTURE

CONTENTS

INTRODUCTION

Today's accounting departments are faced with multiple challenges, including long invoice processing time, difficulties managing large data volumes, and high associated costs.

Available solutions for invoice processing, such as manual data entry and template-based Optical Character Recognition (OCR), are slow, expensive, and have high error rates, and therefore do not meet the needs of the modern Accounts Payable (AP) professionals.

Advances in Artificial Intelligence (AI), specifically cognitive data capture, can bring document data extraction to a new level of efficiency and efficacy, freeing employees from repetitive low-level work and letting them instead concentrate on added-value activities.
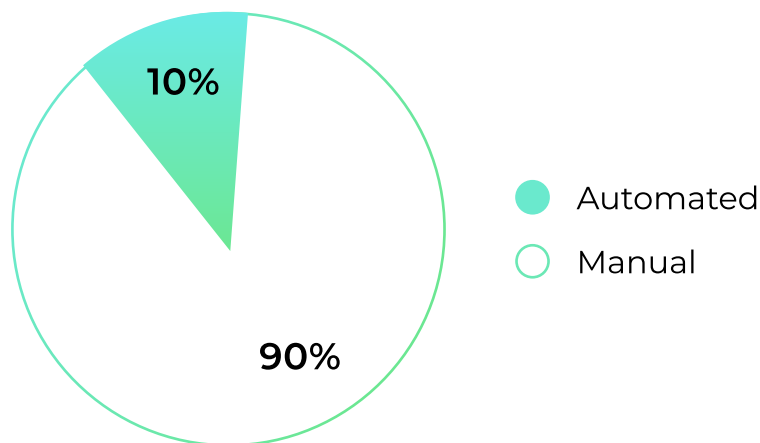
The automation can have a fast, direct and measurable impact on many processes including not only invoice processing itself, but also compliance, security, relationships with external and internal parties, early-payment discounts, improved workflow planning, and the reduction of costs associated with lost and error-ridden documents.

In this white paper, we identify the biggest challenges in invoice data capture and explain how the cognitive field extraction can help companies save time and money, as well as improve accuracy and productivity of their accounting departments.
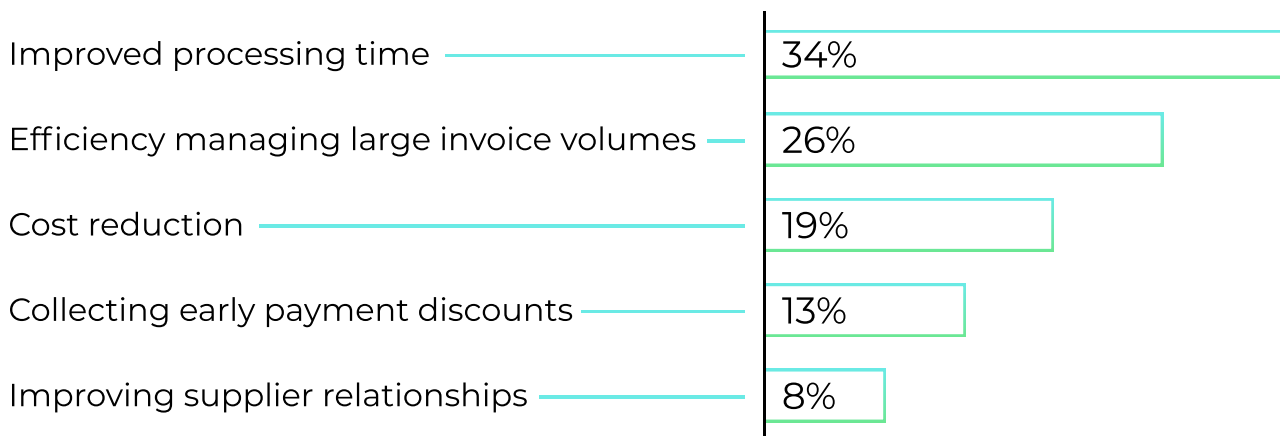
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CURRENT STATE OF INVOICE PROCESSING

Over 90% of the total number of invoices issued globally are still processed manually [1]. For AP departments and accounting firms, this means time, money and resources wasted on manual data entry as well as diminished employee satisfaction due to the highly repetitive nature of their work.

Invoice processing based on data entry methods

- 10%
- 90%

● Automated
○ Manual

However, companies are realizing that automation is a crucial tool to improve their AP processes. It can help reduce costs, decrease the number of lost or missing invoices, save time in the invoice approval process, and address a variety of other ongoing issues of accounting departments.

The most important goals for AP invoice processing

Improved processing time	34%
Efficiency managing large invoice volumes	26%
Cost reduction	19%
Collecting early payment discounts	13%
Improving supplier relationships	8%

Based on the survey results conducted among more than 300 accounts payable professionals (2).

1. Bruno Koch, Billentis, E-Invoicing/E-Billings Significant Market Transition Lies Ahead, (2017)

2. Mark Brousseau, The Association of Accountants and Financial Professionals in Business, Accounts Payable Trends: The Process and Technology of AP Invoice, (2017)

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AVAILABLE DATA ENTRY SOLUTIONS

AP invoice extraction is a complex process and its optimization is a struggle for many companies. Manual data entry is no longer a viable solution due to increasing labour costs, slow processing times, and high error rates. Alternatives, such as template-based OCR, solve some of these issues, but still require a great deal of time and investment to implement.

TRADITIONAL OCR TECHNOLOGY

Template-based OCR is a widely used technology for capturing data from business documents. This technology generates a text layer from the document and then recognizes data fields using either image-based templates or text-based rules.

This solution works well on properly scanned documents (e.g. correct format, not rotated or blurred), and can only process documents with no alternation, such as fixed forms or generated reports.
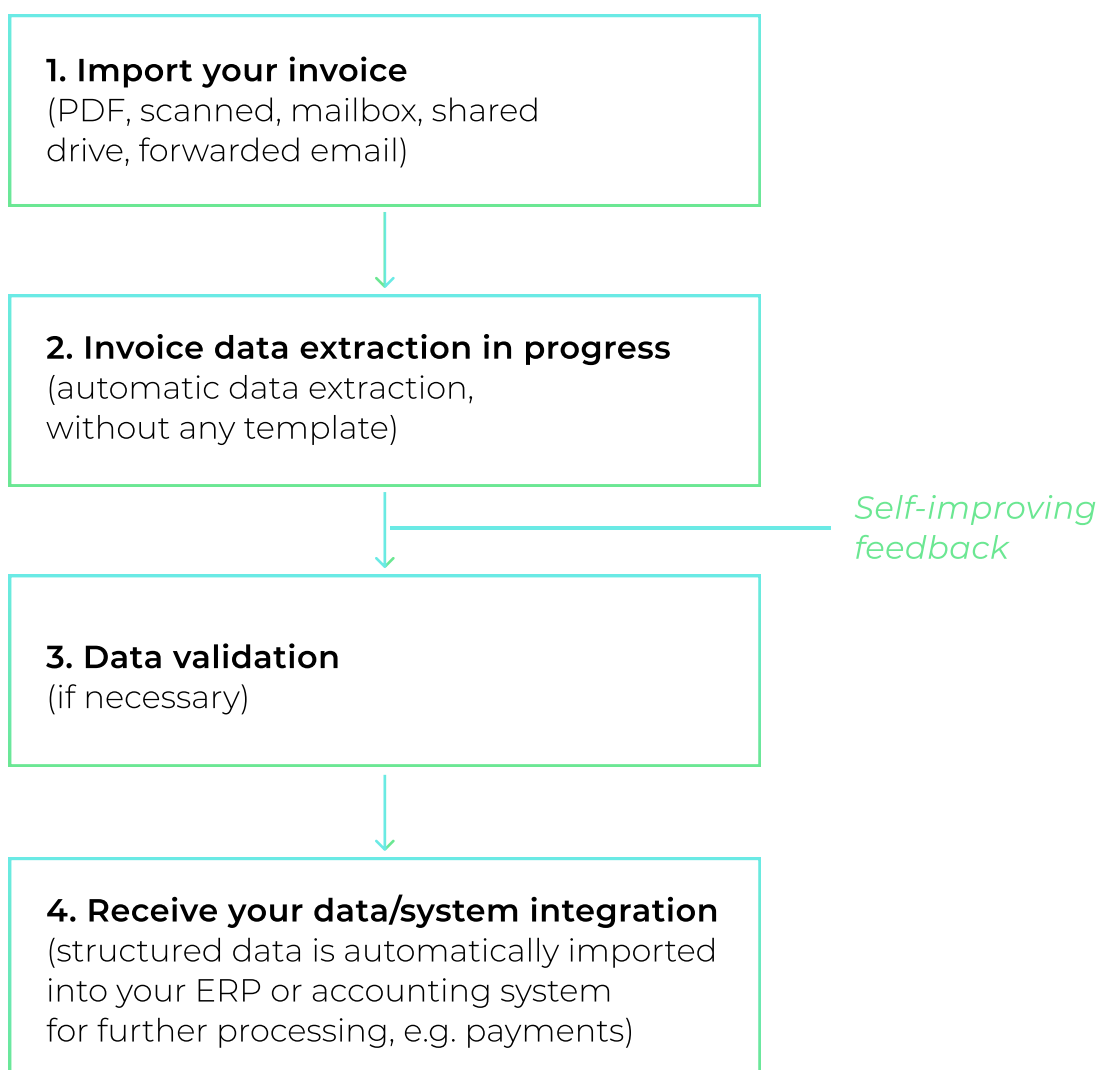
The downsides of template-based OCR

Traditional OCR requires rules and templates in order to accurately capture the necessary data. Each individual alternation of the document requires a long and expensive configuration process. Thus, the companies with high document variability will be faced with (1) a variety of errors, including false positives, or (2) a need to constantly create new configuration rules for each new invoice field.

Cognitive data capture technology emerged as a practical tool to automate invoice data extraction and allow companies with high document variability to optimize their invoice processing.

INVOICE EXTRACTION WITH AI: COGNITIVE DATA CAPTURE

Cognitive data capture uses deep neural networks to recognize patterns in a set of data and adapts to a changing input. The technology infers the underlying general structure of invoices in a similar way a human mind does. Contrary to manual data entry or traditional OCR, it does not require a sizable workforce and the set up of endless rules or templates. Moreover, this solution is highly accurate and adapts to all kinds of layouts.

The process of cognitive data capture

1. Import your invoice
(PDF, scanned, mailbox, shared
drive, forwarded email)

2. Invoice data extraction in progress
(automatic data extraction,
without any template)

*Self-improving
feedback*

3. Data validation
(if necessary)

4. Receive your data/system integration
(structured data is automatically imported
into your ERP or accounting system
for further processing, e.g. payments)

THE KEY AP ISSUES ADDRESSED BY COGNITIVE DATA CAPTURE

1

Large volumes of varying document layouts

Cognitive data capture is able to comprehend the invoice the way a human does. It is able to identify the overall structure and recognize the components on its own. Different formats of the documents are read organically by this technology.

2

Repetitive work and manual data comparison

The learning capabilities allow advanced and automatic comparison of the data, for instance, against an internal registry of vendors or public registry of companies.

3

Discrepancies caused by inefficient internal communication

Cognitive data capture is usually a cloud-based solution. It provides access to automatic updates and allows better team collaboration.

4

Long data processing time, late fees and missing early-pay discounts

It speeds up invoice data capture, runs internal and external checks, and actively aids in identifying early-pay discounts as well as avoiding late fees.

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BENEFITS OF AI IN INVOICE EXTRACTION

30
seconds needed to process 1 invoice

6×
faster than human

1. Time saving

Cognitive data capture greatly reduces the time spent on invoice processing. Automation allows a company to drastically reduce the time of manually processing a single invoice from 3 minutes to 30 seconds [3]. Thus, 6x the number of documents can be processed simultaneously, leaving more time for higher priority tasks.

Moreover, the technology is self-learning and does not require any layout configuration, rules or templates. This saves a great deal of effort in the implementation phase, and with cloud-based technology, roll-out is possible the same day.

2. Accuracy

Automation leads to more accurate and faster results compared to humans under the same conditions. With the development of AI, which constantly gathers information and self-corrects, it learns to become more efficient and reduces common human errors. Cognitive data capture is now able to reach 98% accuracy [4]. As a result, users can pay more invoices with higher precision and on time.

98%
accuracy rate

When it comes to invoice automation, the more invoices processed, the more accurate the technology becomes. This ability to continuously self-improve is called 'data network effect'.

3. Rossum, RPA Case Study: Next Generation Invoice Processing Tool, (2018)
4. Rossum, RPA Case Study: Molson Coors Implements Cognitive Invoice data Capture Tool, (2018)

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97%

less manual actions

3. Productivity

With cognitive data capture it is possible to do the same tasks, but in less time and with reduced errors. This means less double-checking and repeated tasks, leading to higher efficiency and productivity. Based on our user study, it can result in 97% reduction of keystrokes and other manual actions from analysts and data processing specialists [5]. Business processes will be streamlined, resulting in less of a focus on tedious, manual work.

Manual data entry	**VS**	Cognitive data capture
	per FTE a month	
155,000 keystrokes		4,150 keystrokes
8,000 clicks		1,450 clicks

4. Cost reduction

Since there is no need to configure rules or templates (compared to alternatives like template-based OCR), implementation costs, and subsequently overall labour and operational costs will decrease significantly. Added with increases in system productivity and a reduction of errors, the actual costs for automation will yield significant returns in a short period of time.

Average cost to process an invoice

Manual data entry	Template-based OCR	Cognitive data capture
$13	$4	<$1
[6]	[7]	[5]

5. Rossum, Internal Report, 2019
6. Association for Image and Information Management (AIIM), 2016, as cited in An AP & P2P Special Report by Concur, The True Costs of Paper-Based Invoice Processing and Disbursements, 2016
7. Max Palmer, Due, The True Cost of an Invoice to Small Business Owners, 2017

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+20%

annual return on investment from dynamic discounting programs

5. Better process management

AI-powered invoice processing helps avoid late payments. By eliminating human error from the process, no invoice will be forgotten. Thus, no penalties for late payments, no frantic phone calls from suppliers, and no rushed invoices. This all leads to improved relationships with partners and better financial performance in the long run. Furthermore, AP automation reduces the invoice approval cycle and allows dynamic discounting programs to increase annual return on investment by more than 20% [5].
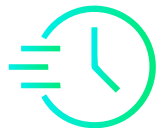
CONCLUSION: THE FUTURE OF ARTIFICIAL INTELLIGENCE IN INVOICE DATA EXTRACTION

With the rise of robots in business, we are just at the dawn of the automation revolution. The financial services industry is one of the leading sectors in the future of AI. Companies that are investing more in automation will eventually become leaders in their sectors as compared to those who fail to invest enough.

All of the previously stated benefits of cognitive data capture in invoice extraction are symbiotic, not mutually exclusive. Time management, accuracy, productivity and process improvement, all work together towards increasing your efficiency, and subsequently the bottom line. While the technology is still young, it will only continue to develop and improve within a widening scope of business activities.

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ROSSUM: THE AI EXPLORER

Rossum is an artificial intelligence company that extracts data from documents with human-level accuracy. We help companies automate data entry tasks and thus create significant savings. Rossum's mission is to teach computers to support human creativity and unshackle the human mind from rows and spreadsheets.

Fast onboarding

No templates

Self-learning

Secure

Learn more how cognitive data capture can accelerate your business processes

SET UP YOUR FREE TRIAL

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