billtrust

Leveraging AI to help your AR operations thrive
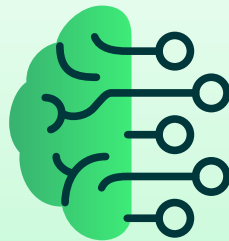
Contents

The year 2023 was a turning point in the world of artificial intelligence (AI), as this technology transitioned from a futuristic idea to an indispensable tool for both businesses and individuals. It witnessed a surge of revolutionary advancements that pushed the limits of AI's potential, reshaping industries and influencing the future of society. Looking ahead to 2024, we can expect further advancements that build upon these achievements, promising even greater efficacy and efficiency.

The year-long trajectory of generative AI, a subset of AI that excels in creating new content, has been nothing short of remarkable. Generative AI models, like ChatGPT, Bard[1] and DALL-E, utilize machine learning algorithms to analyze vast amounts of data and then generate original, human-quality text, images, and videos.
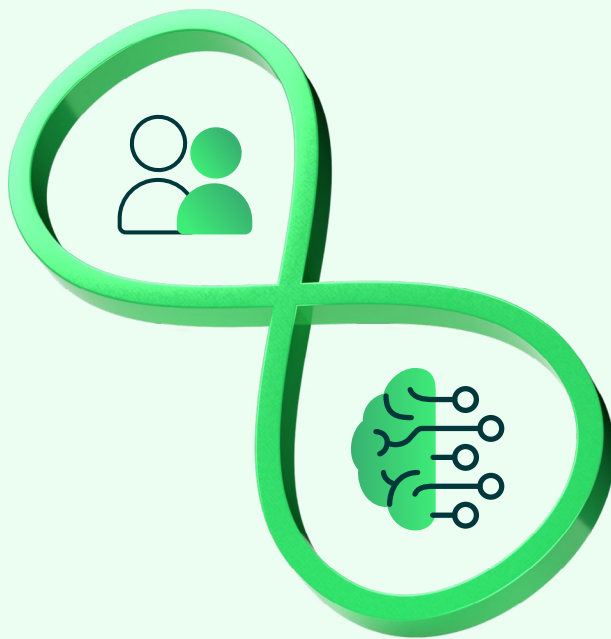
In the year 2024, the generative AI revolution is surging ahead at an unprecedented pace. OpenAI, the mastermind behind ChatGPT, will probably unveil ChatGPT-5, a successor model that promises even greater capabilities. Microsoft, a key player in the AI landscape, has solidified[2] its partnership with OpenAI, while Google has embarked on its own transformative journey into conversational AI with the launch of Gemini[3], their most formidable AI model to date.

The widespread adoption of generative AI mirrors the transformative impact of the iPhone in the smartphone era. Just as the iPhone revolutionized personal devices and spawned entire industries, generative AI is poised to permeate various sectors, from education to healthcare to finance.

The enthusiasm surrounding generative AI should not obscure the expected AI advancements in other fields. In finance, specifically, banks and financial services companies utilize AI for loan due diligence reviews, customer verification, and invoice processing.

As we delve deeper into 2024, the transformative power of generative AI continues to unfold. Its ability to generate original, high-quality content has opened up a realm of possibilities across industries and applications. The future of generative AI is bright, with the potential to revolutionize how we communicate, learn, and interact with the world around us. Despite sky-high expectations for AI, CFOs are still in learning mode when it comes to successfully implementing AI.

In this white paper, we want to provide some basic background information on AI, its milestones and challenges. We explore use cases in accounts receivable (AR) and the order-to-cash cycle. We'll try to understand how AI can help in improving AR business processes and the journey you'll need to make in order to be successful. And we'll make it clear why this pattern of technological advancement matters.

Numbers

> "The world's most valuable resource is no longer oil, but data."

THE ECONOMIST, MAY 2016

— Forrester Research predicts that the RPA market, including software and services, will grow to **$22 billion** by 2025.[4]

— In 2022, **35% of companies** used AI in their business, and an additional 42% are exploring AI.[5]

— According to a report by The Economist, **86% of financial services executives** plan to increase AI-related investments through 2025.[6]

— In a McKinsey survey[7] "The State of AI in 2023: Generative AI's breakout year", **79 percent of respondents** say they've had at least some exposure to gen AI, either for work or outside of work, and 22 percent say they are regularly using it in their own work. And 60 percent of organizations with reported AI adoption are using gen AI.

— Recent research by IBM shows global uptake of AI is becoming more prevalent across all industries, with **over a third (35 percent)** of businesses reporting its use in 2022 – a four-point increase from the previous year.[8]

— In a survey by Nvidia **58 percent of executives** in financial services companies say AI is important to their company's future success, up from 39% a year ago.[9]

— According to a Deloitte survey, **over 50% of organizations** are planning on incorporating the use of AI and automation technologies in 2023.[10]

— **40% fewer hours** are needed to process routine paperwork when even the most rudimentary AI-based extraction techniques are implemented.[11]

— Venture capital investments in AI companies soared in 2023, **reaching $50 billion**[12], a slight increase from 2022.

What's clear from these figures is how AI has spread across multiple business practices, with fintechs investing time and resources in AI as a means to differentiate themselves from competitors.'

AI 101: Key terms and concepts

There are many terms associated with AI, and it can be overwhelming for someone new to the field. Understanding some of the most important terms, such as Robotic Process Automation, artificial intelligence, machine learning, neural networks, and more, is crucial for grasping the basics of AI and its potential applications.

Robotic Process Automation

Robotic Process Automation (RPA) was developed to automate those tedious, necessary, monotonous tasks that don't require human intelligence. In order to do so, RPA uses virtual software robots (not to be confused with what you may remember from sci-fi movies), often in combination with artificial intelligence (AI).

RPA extracts or reads information from existing IT systems, either through an interface with the back end, or, like people, by accessing software directly as intended. Once the RPA system has extracted the data, it can perform well-defined and pre-configured tasks such as sending out invoices or generating. In short: RPA interprets data, initiates actions, and communicates with other systems.

These robots (commonly called bots) may run attended, unattended, or in a hybrid configuration.

- **Attended** RPA bots only run on-demand, after a request by a user. They do not get automatically triggered but require deliberate human interaction to start tasks.
- **Unattended** bots run at the back end and can quietly produce, for example, a report you might need as you start your next work day. You may also see them managing auto-response systems - such as a process that automatically sends a response to a loan application from a customer submitting a form on a website.
- Most RPAs, however, are **hybrid**, meaning an end-to-end automated workflow will have both attended and unattended bots that work together. One good example is having an automated report generated for regular review by a user, but waiting for that reader to analyze the findings before deciding whether or not to initiate further actions.

RPA is particularly valuable at automating work that is high-volume, low-complexity, and rules-based. These tasks can include seemingly mindless repetitive actions such as copying and pasting, extracting information from documents, filling out forms, and transferring files and folders. Essentially, anything that follows a set of established rules can be streamlined with RPA.

Organizations are increasingly replacing standalone RPA implementations with more robust workflow solutions where RPA is just part of an advanced suite of tools.[13] The goal is to create more intelligent automation, with maximum efficiency as a result. For many companies, RPA is a first step towards the use of artificial intelligence.

Artificial Intelligence

While RPA makes it possible for your computer to execute human actions, artificial intelligence (AI), on the other hand, makes it possible for a machine to mimic human thinking. With AI in place, computers can solve problems that would normally require human intelligence, such as recognizing certain patterns, learning, improving previously processed data, and making predictions for the future.

With RPA alone there's only a set amount of room for improvement and optimization because it is based on predefined rules which generate an outcome based on an action. However, while RPA is only associated with simply performing actions, AI is usually associated with thinking and learning - meaning its capacity for improvement and growth is notably larger. Moreover, RPA is process-driven, whereas AI is data-driven - allowing it to change actions and outcomes based on perceived changes in the performance landscape.

> "Just as electricity transformed almost everything 100 years ago, today I actually have a hard time thinking of an industry that I don't think AI will transform in the next several years."
>
> **ANDREW NG, GLOBALLY RECOGNIZED LEADER IN AI AND CO-FOUNDER OF COURSERA**[14]

Machine learning

Recently, AI increasingly uses massive amounts of data sources and data analytics referred to as **big data** to feed machine learning (ML) models to improve predictability and perform automated actions without the need of a human operator.

Machine learning focuses on the use of data and computer algorithms to imitate the way that humans learn, gradually improving its accuracy through experience.[15] It gives computers the ability to learn and make predictions or decisions

without explicit direction Most current advances in AI have involved machine learning.

Machine learning starts with data, such as text, numbers, pictures, etc., which is gathered and prepared to be used for training. The more data, the better. Programmers then choose an ideal machine learning model, supply the requisite data, and let the computer try to find patterns or make predictions about the data - effectively training itself. The model can also be preemptively influenced by a human programmer, who can add extra data and parameters to get more accurate results.

Machine learning is central to some companies' business models, such as in the case of Netflix's recommendations algorithm, Google's search engine, fraud detection in the payment industry, image detections and analysis, chatbots, and medical imaging, to name a few.

Neural networks

One step beyond basic machine learning, a neural network is a type of algorithm modeled after the structure and function of the human brain. It is designed to recognize patterns in data to make predictions, then drive decisions based on those insights.

Neural networks consist of interconnected nodes, or artificial neurons, that process information and pass it along to other neurons in the network. The connections between neurons have weights that can be adjusted during the learning process to improve the accuracy of the network's predictions. Neural networks can be used in a wide range of applications, including image and speech recognition, natural language processing, and even playing games like chess and Go.

Neural networks can have many layers. For instance, an image recognition system can make use of one set of layers for detecting individual features of a face (eyes, mouth, nose), while another layer can then decide whether or not these aggregate features are part of a face.[16]

Deep learning

Neural networks make up the backbone of deep learning algorithms. What distinguishes deep learning from a single neural network, is the number of node layers.

The "deep" in deep learning is referring to the depth of layers in a neural network. A neural network that consists of more than three layers is considered a deep learning algorithm.

Deep learning uses data - often millions of human-labeled examples - to determine the weight (or strength of connection) for each link in these neural networks.[17] These weights are adjusted mathematically so that when the network is presented with new inputs, it will produce the correct outputs.

Examples of deep learning are image recognition, speech recognition, NLP, recommender systems and autonomous driving.

Natural Language Processing (NLP)

From very early on in their history, computers have been able to understand highly structured computer programming languages. But humans use natural language and it's often difficult to get computers to understand and generate these natural languages. The subfield of AI that's focused on fixing this gap is called Natural Language Processing (NLP).

Natural Language Processing (NLP) focuses on the interactions between computers and humans using colloquial, everyday language. It involves developing algorithms and models that can analyze, understand, and generate human language.

The goal of NLP is to enable computers to understand, interpret, and generate text in a way that resembles human communication - completely within expected context. It involves various tasks such as text classification, named entity recognition, sentiment analysis, machine translation, and question-answering.

NLP technologies are used in a wide range of applications, including virtual assistants, chatbots, language translation software, and text-to-speech systems. Google Translate is a great example that can, for example, instantly translate foreign languages into completely understandable text for a native speaker. In the AR landscape, NLP also allows treasurers to process unstructured data more effectively.

Predictive & Prescriptive Analytics

A machine learning system can have three functions. Descriptive, meaning it uses data to explain what happened; predictive, meaning the system uses the data to try to predict what will happen; or prescriptive, where the system uses data to suggest what action(s) you need to take.

Predictive analytics is the use of data to predict future trends and events. It uses historical data to make assumptions on the future, forecasts and scenarios. Known examples of predictive analytics are weather forecasts or algorithm-enabled medical advancements. In finance, forecasting future cash flows is an obvious one.

While predictive analytics focuses on identifying what might happen, **prescriptive analytics** uses similar data to uncover ways to make things happen. This type is called the future of data analytics, and it's easy to understand why. It goes beyond assumptions or explanations and recommends the best course of action to take.

Through machine-learning algorithms, large amounts of data are explored, then recommendations are made based on requirements. Let's say, for example, the algorithm discovers that your client is not using some high-value parts of your SaaS solution. The system can automatically recommend extra training or content designed to help the customer recognize the opportunity they're missing.

AI milestones

AI has been around since 1950, when it started as a simple area of research, and, over the years, it continuously grew and evolved as computing performance improved worldwide. Since 2010, as the technology became more complex, AIs have outperformed humans in nuanced areas, including driving cars.

1943 — McCulloch & Pitts recognize logical functions could be completed through networks of artificial neurons (ANNs)

Alan Turing develops the Turing Test, designed to identify differences between human and robotic thinking and behaviors. — **1950**

1955 — The term "artificial intelligence" is first used by John McCarthy.

ELIZA by MIT, is the world's first chatbot. — **1966**

1969 — Bryson and Ho develop a back propagation algorithm. It essentially allows a neural network to learn from mistakes.

Expert Systems, or Knowledge Systems, emerge as a new field within AI. — **1980**

Deep Blue, IBM's chess supercomputer, defeats world chess champion Garry Kasparov in a 6-game match. — **1997**

2005 — The DARPA Grand Challenge: 132-mile race for autonomous vehicles where first vehicles complete the course.

Google's first self-driving car. — **2009**

2011 — Voice-controlled virtual assistant Siri becomes mainstream.

The power of deep learning is demonstrated. Researchers at Stamford and Google train computers to recognize pictures of cats. — **2012**

2015 — AI views things better than humans (ImageNet challenge)

Google's AlphaGo, created by Deep Mind, applies ML algorithms to defeat world Go champion Lee Sedol over five matches. AlphaGo used neural networks. — **2016**

2018 — Self-driving cars hit the road with Google spin-off Waymo's self-driving taxi service in Phoenix, AZ.

AI plays a big role in helping candidate vaccines for Covid-19 get ready in record times. — **2020** — OpenAI unveils GPT-3, a deep learning model capable of creating convincing and flexible natural language from an AI system.

2022 — OpenAI announces DALL-E 2, a deep-learning image synthesis model that has the ability to generate images from text prompts, while ChatGPT running in GPT-3.5 sends the web wild with demos.

From the debut of large language models such as GPT 4 and Google Bard/Gemini, to the innovative Humane AI Pin and the creation of an entirely new Beatles song, 2023 has been a breakthrough year for Generative AI. — **2023**

Navigating the obstacles and misunderstandings in AI

Despite its growing popularity, AI remains a novel and misunderstood concept. This is why there are still many misconceptions surrounding AI, and why numerous challenges persist.

Big datasets, big problems?

AI and deep learning systems rely heavily on large amounts of data to function and produce accurate results. However, the success of these systems depends not only on the quantity of data but also the quality of the training data used to train the algorithms.

To ensure high-quality training data, AI projects typically spend a significant amount of time and resources on data preparation, including cleaning, standardizing, labeling, and connecting data banks. This process can be quite time-consuming,[18] especially for large datasets, and requires a significant investment of resources and expertise to get right.

Inaccurate or poorly prepared training data can lead to biased or ineffective AI models, reducing the overall accuracy and utility of the AI system. That's why it's so important to focus on quality in the data preparation stage, even though it takes time and effort.

Proceed with caution

AI algorithms rely on the quality and bias of the data they are trained on. If the training data contains biases or there is a small change in input data, the AI system will likely make decisions and produce outputs that reflect those biases and changes.

For instance, if an AI credit scoring system is trained on a dataset that heavily favors individuals with high incomes, it may be more likely to reject loan applications from individuals with low incomes, even if they are financially responsible and capable of repaying the loan. This can perpetuate existing inequalities and limit access to financial resources for certain groups.

Every dataset and algorithm inherently has a bias, which means every AI initiative is based on something biased. Therefore bias should be part of any ethical review around AI. Hence, it is crucial to be cautious and ensure that the data used to train AI systems is diverse, representative, and free from any biases. This can help reduce the potential harm and ensure that AI systems are fair and just in their decisions and outputs.

Also, because AI is becoming more embedded in technology products, it won't always be obvious what exactly is AI and what is not. There is a big need for a set of rules around AI.

> "ChatGPT is scary good. We are not far from dangerously strong AI."

ELON MUSK, DEC 2022 ON TWITTER

Regulation: a critical conversation for the future

This brings us to the next important topic. The big tech companies that are already being monitored by antitrust regulators for their dominant market positions are also in position to lead the AI revolution. As a result, both governments and regulators are paying close attention to AI advancements. In 2021, the European Commission proposed the world's first legal framework for AI to address potential risks associated with its use.[19]

Despite the public accessibility of AI tools to a range of entities, including consumers, start-ups, and smaller companies, obstacles still exist. One noteworthy example is the highly popular OpenAI. Originally started as a non-profit organization, it has since shifted to a "capped" for-profit model, where profits are limited to 100 times any investment. To put it simply, if a $1 billion investment is made, the profit cap would only come into effect once the initial investment has generated $100 billion in returns.

This structure has caught the attention of many, highlighting the significance of monitoring advancements in the AI industry.

Responsible AI through transparency and continuous monitoring

Tracing the results of traditional rule-based software is easier as it can be traced through its code. But, the workings and decision-making processes of today's AI models are often unclear, known as "black box" models, even to experts.

To address this issue, new methods have been created to interpret and comprehend these black boxes, evaluate the fairness of their results, and increase transparency in explaining how the model operates. This should be a priority from the outset.

Continuous monitoring is crucial for AI systems to maintain their performance and accuracy. Without monitoring, the systems' effectiveness may decline over time, and issues may arise without detection. It is important to stay up-to-date with the latest AI advancements and development - including regulations and ethical considerations- as they may impact the performance of existing systems and require adjustments.

The evolution of jobs

One prevailing cliché is that AI makes people superfluous, meaning jobs will be lost. That isn't always a fair assumption because, often, we see workers shifting from boring, repetitive jobs into creative, value-adding assignments that actually make working days more engaging.

Thanks to AI, finance teams - for example - can focus their energy on tasks that require strategic understanding. AI provides them with more time to reflect on their work processes and gives them the possibility to come up with new, innovative ideas that benefit the company.

Costs involved

Training AI models demands an immense amount of computational resources. With the advancements in servers and GPUs every year, they are becoming faster and more efficient, but this often comes with a trade-off in terms of electricity consumption.

The energy requirements for AI training can be significant, as these models are designed to process and analyze large amounts of data. This energy consumption not only has a direct financial impact but also has a larger environmental impact, contributing to the carbon footprint of the technology industry.

Cyber warriors beware

The misconception sometimes holds that AI is more vulnerable to cyber security risks, but this is not always the case. AI is often equipped with various security measures like data encryption, active directory integration, segregated access to data, and protection against malware and Trojan viruses, making it resilient against cyber attacks.

Furthermore, research has revealed that human error is the primary reason for data breaches, and implementing AI eliminates this human factor, thus improving cyber security.

There are also other developments that allow privacy to be safeguarded, such as edge computing. Edge computing enables vital computing and data activities to happen on user devices such as smartphones, cars, and machines. This smaller AI model continually improves on a device level and sends adjustments to a central model, but not the underlying individual data.

How finance teams can make the most of artificial intelligence

> Today, many companies in every area of the financial ecosystem are interested in or deploying AI. ML algorithms are trained to approve loans and predict loan repayments, make better risk assessments about customers, or manage assets.

In short, finance companies are looking into AI to **automate their IT and business processes.** Not only drive greater IT efficiency or cost savings, but also to give time back to employees, provide better experiences for customers, deliver and scale new services more quickly and address skills gaps.[20]

As useful as AI has proven so far, it will take more time to figure out how AI can best be used and implemented in existing business processes. On one side, there are practical and immediate uses but, over time, we'll begin to fully uncover the profound and transformative effect AI will have on the entire economy.

Today, we're seeing AI used in products and processes such as:

ROBO-ADVISORS AND CHATBOTS

AI-powered chatbots and virtual assistants can be used as a 24/7 self-service customer tool. These virtual assistants can help customers with account related requests, complaints, transaction history, and other financial services. They particularly appeal to a younger generation who do not need or want a dedicated personal advisor, and the fees paid to them. They're getting more conversational every year, thanks to advancements in natural language processing.

DATA-ENTRY

AI can facilitate work and perform repetitive standard tasks, often administrative. Some examples of this are: updating the CRM (customer relationship management) system, entering customer details in the invoicing system, keeping score of sales figures in the accounting system, and so on.

Heineken, the second biggest brewer worldwide, and a Billtrust customer, started accelerating RPA and AI through the UiPath platform in 2019. They have rolled out more than 100 RPA processes which combined save more than 12000 work hours every month. The goal is to get to 1 million saved hours by 2025.[28]

Prudential used artificial intelligence to accelerate many individual life underwriting processes from 22 days to 22 seconds. And digital claims processing capability can now deliver funds to most customers in six hours as opposed to six days.[27]

RISK MANAGEMENT

AI can be used to analyze financial data and make predictions about potential risks to the institution. For instance, AI can detect patterns in stock prices that might suggest a market decline. By identifying potential risks beforehand, AI can assist financial institutions in taking measures to minimize them.

CREDIT SCORING AND LOAN APPROVALS

The use of AI in analyzing large amounts of data to assess the creditworthiness of borrowers helps financial institutions make more accurate and efficient lending decisions. The processing and handling of loans and mortgages can also be automated as much as possible.

FRAUD DETECTION

AI algorithms can identify anomalies and suspicious activity that may not be detectable by human analysts. This helps financial institutions to quickly detect fraud and reduce the risk of financial loss. Moreover, AI systems can continuously learn and adapt to new patterns of fraud as they evolve, making them highly effective in staying ahead of the constantly changing tactics used by fraudsters.

Credit card fraud detection is one of the most successful applications of machine learning (ML). Algorithms can learn from very large sets of historical payments and transactions data, and based on that information the algorithms can label events as fraud.

PORTFOLIO MANAGEMENT

AI can be used to analyze financial data and make predictions about future market trends. By using these predictions to inform investment decisions, AI can help financial institutions improve returns on their portfolios. Robo-advisors can also put together a financial investing portfolio based on a certain risk tolerance.

AUTOMATED TRADING

AI analyzes financial data and executes trades based on market conditions, resulting in more efficient and profitable trades for financial institutions.

CLOSING, CONSOLIDATION, AND REPORTING

Automation and AI enhance the speed and precision of closing, consolidating, and reporting financial performance. Specifically, the use of Robotic Process Automation decreases transactional expenses, improves cash flow, and provides instant in-depth analytics.

Using AI in accounts receivable to stay ahead

Over the past few years, the application of AI in the finance industry has rapidly increased and is expected to continue growing in the next decade. The technology and its benefits are no longer a great unknown to the majority; instead, many have seen firsthand the ability AI has to automate routine tasks and enable businesses to make data-driven decisions and achieve long-term success.

As we look to the years ahead, we have reason to believe AI can streamline accounts receivable processes and provide numerous benefits.

A boost in efficiency

The implementation of AI in finance allows businesses to increase productivity by delegating labor-intensive tasks to AI, freeing up human workers to focus on their strengths.

AI can automate routine and tedious tasks such as data entry, compliance checks, invoice processing, and collections. It does so at a faster pace and more efficiently than human workers. Because you can accomplish more with fewer employees, AI helps reduce costs.

Additionally, the precision required in finance demands a high degree of accuracy, which AI can consistently deliver.

Always on, always available

Once an AI system is set up and running, it can continue to operate without interruption, providing around-the-clock services and support. This makes AI particularly useful for tasks that need to be performed continuously or for businesses that operate on a 24/7 schedule, as it can provide seamless support without any downtime.

Operating in the background, AI can monitor accounts with near real-time precision, giving organizations up-to-date information on payment status and outstanding balances.

Unlocking revenue potential with AI scalability

Thanks to its ability to manage larger transaction volumes, AI enables businesses to scale their operations while maintaining quality and avoiding overburdening the existing workforce. As a result, businesses can grow and serve more customers without having to hire additional personnel.

Additionally, the implementation of AI can enhance the speed and efficiency of processes, enabling businesses to operate more effectively and quickly adapt to changing market conditions.

A happy workforce

Workflow automation through the use of AI reduces the workload of human employees by automating repetitive and time-consuming tasks. When human employees are not bogged down by mundane tasks, they are more likely to feel fulfilled and satisfied with their work.

Additionally, automation through AI ensures that tasks are performed accurately and without errors, reducing the risk of mistakes and increasing the efficiency of processes. This can lead to increased job satisfaction and improved morale among human employees, as they are no longer burdened by tedious and error-prone tasks.

In summary, by reducing the workload of human employees and allowing them to focus on higher-value tasks, AI can lead to happier and more productive team members. This, in turn, can improve overall performance, drive business growth, and increase employee retention at a time when keeping good talent on your team can make the difference between success and falling behind.

Build trust in your organization

AI makes auditing easier and can detect external and internal fraud and protect against cyberattacks. This generates trust in the product, brand and company.

The use of AI in auditing makes the process faster, more efficient, and more effective. AI can analyze vast amounts of data and identify patterns and anomalies that would be difficult or impossible for humans to detect. This allows auditors to quickly identify potential areas of fraud and other financial irregularities, both external and internal. AI can also detect potential cyberattacks and help protect sensitive financial information from theft or unauthorized access.

By detecting fraud and protecting against cyberattacks, AI helps to build trust in the product, brand, and company. Customers and stakeholders are more

likely to trust a business that uses AI to ensure the security and accuracy of its financial information - especially in a financial environment that might encourage them to pay close attention to managing risk. Using AI for auditing and fraud detection is seen as proactive and innovative, which can improve the reputation of your business and attract new customers.

Better financial insights

AI systems are able to pull information from a variety of sources and process large amounts of data, which companies are now relying on heavily. The bigger the company, the more data sources they tend to use.

Through analyzing this large volume of data, businesses can uncover trends, patterns, and relationships, leading to more informed and improved decision making. The ideal scenario is for these insights to be available in real time.

In accounts receivable, AI can be applied to analyze financial data and predict future payment patterns. This helps organizations identify potential payment risk and take proactive measures to collect payment.

Additionally, AI gives better insights in customer behavior by identifying patterns and trends that would be difficult for humans to detect. AI can analyze customer transactions, credit history, and other financial data to gain a comprehensive understanding of each customer's financial situation and needs.

Improved cash flow

By automating tasks and optimizing efforts in the order-to-cash space, AI can improve the speed and efficiency of these processes. This helps to ensure that payments are collected in a timely manner and that outstanding balances are managed effectively. By streamlining these tasks, AI can help organizations to improve their cash flow and maintain a healthy financial position.

Improved cash flow enables organizations to make better use of their financial resources. When cash is flowing in more efficiently, organizations can reinvest in their business, pursue growth opportunities, and increase their competitiveness in the market. In addition, having a stable and predictable cash flow can help organizations to plan for the future and make strategic decisions that are based on sound financial information.

Drive a better customer experience

Finally, AI can be utilized to provide a tailored and customized experience for customers. AI can develop individualized communication plans for each customer, leading to better customer communication and a more personal touch. For example, in collections, it can enhance collection efficiency and improve customer relationships by using personalized reminders communication.

AI also helps in communicating financial information to other stakeholders - internally, to vendors, to board members or other parties. It can help with issues like translation or context of critical information.

How Billtrust uses the power of AI in the order-to-cash process

AI holds a lot of promise to accelerate processes, improve efficiency and control costs. Particularly highly-automated and data-rich applications can profit from AI. The order-to-cash cycle is one of those areas where companies of all sizes benefit from introducing AI.

Here at Billtrust, we use AI in a number of ways within the order-to-cash process.

AR STAFF TIME ALLOCATION

- 19%
- 14%
- 18%
- 22%
- 18%
- 9%
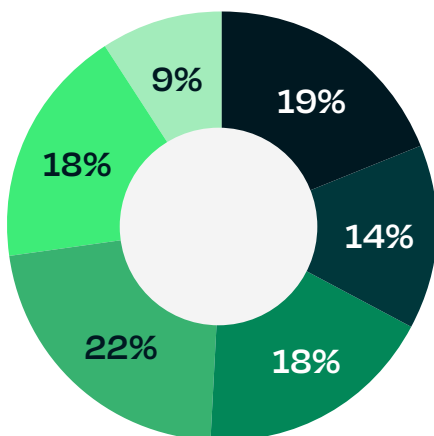
- ● Credit
- ● Invoicing
- ● Payments
- ● Cash application and reconciliation
- ● Collections
- ● Deductions

Cash Application: not all machine learning is the same

According to Billtrust's State of the AR Industry survey of AR professionals, AR departments typically spend an average of 22% of their time on manual cash application. It is even the most time-consuming activity of all order-to-cash processes.

At Billtrust, we've identified early on that machine learning could play an integral role in helping AR teams to accelerate their cash application efforts. Cash Application, a Billtrust solution to match invoices with remittances regardless of how they are sent, utilizes machine learning to increase data extraction accuracy rates and improve envelope match rates.

Our dedicated machine learning models learn from your ERP's Open AR file and your buyers behavior to automatically improve match rates over time. Our model takes into account customers' invoice numbers, formats and remit structure which allow for very high accuracy.

Unlike other rule-based approaches to cash application we don't require programming to update. Cash Application is a confidence-based solution where you can set a risk based acceptance level of criteria and enter your own custom exception handling rules.

In addition, with our proprietary Digital Lockbox, Cash Application can automatically pull remittance data from emails and mobile devices, as well as from 190 third-party AP portals and self-service portals.

Collections & Credit Management

Historically, the collections function hasn't received much technological attention. Credit managers and collectors are responsible for handling vital business tasks, but manual, tedious, and time-consuming tasks still make up the bulk of their work.

And the results are there to see: delayed payments, untimely tracing of customers, and poor communication are common issues. Moreover, convoluted procedures can lead to unsatisfactory customer experiences. This is a frequent complaint we encounter when implementing Billtrust Collections for our customers.

Today, we find ourselves at a new crossroads with the potential for a recession looming over many industries. With the inevitability of increased days sales outstanding (DSO) that this type of economic uncertainty brings forth, it's crucial that collections becomes even more of a priority for organizations.[21]

Luckily, it's again an area where AI comes into play. It has the potential to change the nature of work for AR teams. Using AI-powered automation not only frees up valuable time for collectors, it also optimizes collections strategies. It can improve on human decision-making through working with historical data and predicting the probability of payments when changing procedure steps and timing.

Billtrust Collections uses RPA to assign the correct workflow to clients using predefined criteria. Automation of procedures and workflows help reduce repetitive tasks and make time for more complex jobs. You can personally manage only the most important issues, such as dealing with delicate clients, or finding solutions for those with financial problems.

An AI-powered collections management process starts with predicting invoice payment dates and possible delays. With this info you can better forecast cash flow, one of the most in-demand AI features in accounts receivable.

Two predictive AI features stand out in our collections solution. With **AI cash forecasting** we can predict when and which invoices are going to get paid or not and accurately predict your future cash flow. With a second AI feature you can **monitor and adapt your collections strategies.** For every procedure you can change the timing of the procedure steps and see what the impact is on the payment probability.

Especially in a volatile macro-environment cash forecasting is one of the top priorities for CFOs and AR teams. Any tool that can contribute to faster, better-informed decision making and improved cash management, should be a top priority for AR teams.

Whether it's RPA, AI, machine learning - or a combination of these, combining these technologies to create a more successful collections process can lead to advantageous outcomes.

"Although AI will never replace the invaluable work of a collector, it has the potential to make them much more effective and efficient by boosting their ability to maintain their organizations' cash flow at a time when external challenges pose enormous threats."

JOHN FLOYD, SENIOR BUSINESS CONSULTANT, BILLTRUST.

Accelerate your AI journey: 10 steps for sustainable success

Successful implementation of AI requires more than just getting the right tools in. Gartner research[22] shows that leading AI deployers share four common behaviors that enable them to quickly meet or exceed the expected impact of their AI projects and deliver critical finance and business outcomes.

We'd like to expand on these four and propose 10 essential steps you can take in order to be successful in your AI journey.

There are a number of online resources that you can use to get started:

— Udacity Intro to Artificial Intelligence

— Stanford Artificial Intelligence: Principles and Techniques course

— OpenAI

1. Get to know AI

When it comes to AI implementation, it's important to start with a clear vision and plan. It helps to ensure that the efforts and resources invested in the project align with the organization's goals and objectives.

Acknowledging that automation is mission-critical means recognizing the importance of AI in driving business outcomes. Companies that are successful in implementing AI have made it a priority and understand that it is crucial to their success.

Trying to **understand the purpose and value of AI** before choosing solutions is key. Companies need to assess their needs and understand what problems they want AI to solve. This helps to ensure that the AI solution chosen aligns with the organization's goals.

Top-down buy-in focus means that **support and commitment for AI implementation should come from the top management.** This helps to ensure that the organization is committed to the project and that the necessary resources are made available. Without enthusiastic support from the CEO and the rest of the C-suite AI strategies are likely to flounder.[23]

Finally, **familiarizing yourself with the basic concepts of AI is important** for everyone involved in the implementation process. This includes understanding what AI is, how it works, and its potential to transform businesses. **Setting up an enterprise-wide training program is crucial** to a better understanding of AI and automation. The program should encompass not only introductory training, but also a thorough understanding of the underlying technologies.

2. Identify business problems, needs and goals

Developing use cases is an important step in the AI implementation process. They help give direction to AI teams by providing concrete examples of the business problems or needs that AI can help solve. This could include streamlining processes, improving customer experience, reducing costs, or increasing efficiency. By clearly defining the problems you want to solve, you can ensure that the AI solutions you develop are targeted and effective.

It is also important to **identify where AI is already in place** in other parts of the business. This can help to inform the development of new AI solutions and ensure that existing solutions are integrated effectively.

Evaluate the value proposition for your business and determine the financial impact of the AI solutions under consideration. Define your goals and choose relevant metrics for assessment.

3. Check resources and make purchases

Assess the internal resources required before initiating the project. Determine the availability of teams or team members. Consider any ongoing or future projects that could contribute.

Check if your infrastructure is up-to-date to handle the data flows. Determine if additional storage or computational capabilities are necessary for smooth functioning of algorithms and improved model accuracy. Consider if the data is already stored.

Assess available financial resources. With the availability of platforms offering pre-built infrastructure and algorithms, the barriers to AI implementation have decreased significantly.

4. Bring in (external) AI experts

This step goes hand in hand with the previous one. By bringing in (outside) AI professionals you'll get answers to a lot of the questions we just posed. These **experts have the knowledge and access to the tools to do the job.** Choosing the right software and tools is crucial in helping with the deployment of AI in your existing environment.

Take healthcare for example. Numerous successful partnerships have been established between pharmaceutical and biotech companies and external data scientists and software, resulting in faster breakthroughs in finding new medicines and therapies. This wouldn't be possible without cooperation.

5. Get your (data) house in order

Without quality data any AI model will produce poor quality output. **Getting data of the highest quality** is better than spending time on improving the AI model itself. Data can be classified into two categories: structured and unstructured. Structured data, which is well organized, is easier to use in machine learning than unstructured data. The next steps are to clean the data for improved quality, process it, and store it efficiently.

To elevate your efforts even further, **consider setting up an AI hub** for your business. Accenture, a research firm, refers to what they call an AI Core as a centralized platform for data and AI that takes advantage of a company's talent, technology, and data assets. Think of it as a central command for executing your AI plan.

6. Start with a pilot project

Start and **experiment with a small project** or early pilot. This limited project allows you to try things out before going full in. You can try out tools and infrastructure. You can discover if data silos exist and learn how to break them down in the organization.

7. Ensure that AI is built and used responsibly and ethically

Verify that AI systems and their usage comply with applicable regulations, standards, and ethical considerations through a compliance review. The review process involves evaluating AI algorithms, data, and deployment procedures to detect and reduce the likelihood of potential risks such as data privacy breaches, unequal treatment, and biased decision-making.[24]

Undergoing **a compliance review demonstrates an organization's dedication to responsible AI practices** and can enhance trust with stakeholders.

8. Test, test, test

In the realm of forecasting, the accuracy of most AI systems is often not impeccable from the outset. Hence, **the importance of testing cycles cannot be overstated.** Testing can identify any errors or bugs that may have been introduced during the development process. Furthermore, testing can also help to identify areas where the system may need further improvement. Ideally, tests should be on the radar of all members of the senior leadership team.

9. Analyze the results

The analysis of results from an AI implementation process is a crucial step in determining the effectiveness and efficiency of the solution. There are **several key metrics that should be considered.** When you've decided on end-goals and metrics early on in the process, it's much easier to analyze the results.

10. Continuous improvement and scaling

The initial months or year of integrating AI into business processes are vital. To ensure continued effectiveness, it is necessary to **periodically retrain the AI models** as inputs change and new feedback is acquired. To drive adoption and maximize potential impact in your business, **consider offering incentives for utilizing AI** when key performance indicators are achieved. This approach goes beyond simply discussing the potential return on investment.

> "We cannot direct the wind,
> but we can adjust the sails."
>
> **DOLLY PARTON (AND OTHERS)**

What can we expect in the future of AI?

Artificial intelligence (AI) is fast becoming the defining market trend of 2023. The excitement about generative AI, such as ChatGPT, will surely speed up progress and attract even **more investments in the space.** Particularly among businesses that are directly impacted by economic disruptions and more mature industries that can scale and adopt AI the most.

American economist Erik Brynjolfsson says that some AI advancements he anticipated have progressed even quicker than expected, while others have proceeded at a slower pace.[25] He cites self-driving cars as an example, stating that although 99% has been accomplished, the remaining 1% is proving to be more challenging than initially thought.

A big part of AI the coming year(s) definitely will be **regulation**. AI technology is moving fast, but lawmakers will catch up. For now, at the national and international level, there are hardly any rules in place. The European Union's AI Act could kick-start things from a legal point of view. The draft law focuses on determining criteria for assessing the risk of an AI system. High-risk AI features and solutions will get strict regulation or even get banned from being used.

Some companies are already creating strict guidelines for using AI. Consulting group PWC has warned its staff against using ChatGPT for client work.[26] Risks and limitations of utilizing large language models for automation and decision-making are pointed out, and several intellectual property, security, and privacy concerns must be addressed before AI tools can be uniformly utilized throughout the company.

Then there's also the **issue of bias**. The largest source of bias is the data the AI models are trained on. In the end it's on us to decide what data and knowledge we feed the AI systems.

In conclusion, it is evident that AI is a permanent fixture in the future. However, the path ahead is filled with challenges and potential dangers. The responsible deployment of AI holds the key to a New Industrial Revolution. Just as it took time for electricity, brought about by Thomas Edison's invention of the lightbulb, to revolutionize factories and production processes, we are still in the early stages of unlocking the potential of AI.

PS: This final section was partly co-written with the help of ChatGPT. Its database, at the time of writing, only uses data as recent as 2021 so we mainly asked it to help produce better sentences where it could.

References

1. Google. An important next step on our AI journey. https://blog. google/technology/ai/bard-google-ai-search-updates

2. OpenAI. OpenAI and Microsoft Extend Partnership Jan 2023. https://openai.com/blog/ openai-and-microsoft-extend-partnership/

3. Google. Introducing Gemini: our largest and most capable AI model https://blog.google/technology/ai/google-gemini-ai/

4. Forrester. *The RPA Market Will Grow To $22 Billion By 2025.* https://www.forrester.com/report/ the-rpa-market-will-grow-to-22-billion-by-2025/RES177085

5. IBM. *Global AI Adoption Index 2022.* https://www.ibm.com/ downloads/cas/GVAGA3JP

6. The Economist. *AI: The Future of Financial Services.* https:// go.thoughtspot.com/white-paper-economist-ai-future-of-financial-services.html

7. McKinsey. The state of AI in 2023: Generative AI's breakout year. https://www.mckinsey. com/capabilities/quantumblack/our-insights/ the-state-of-ai-in-2023-generative-ais-breakout-year

8. IBM. *Global AI Adoption Index 2022.* https://www.ibm.com/ downloads/cas/GVAGA3JP

9. Nvidia. *State of AI in Financial Services 2023.* https://www.nvidia.com/en-us/industries/finance/ ai-financial-services-report/

10. Deloitte. *State of AI in the Enterprise, 5th edition 2022.* https://www2.deloitte.com/us/en/pages/consulting/articles/ state-of-ai-2022.html

11. PwC. *It's time to get excited about boring AI.* https://www.pwc. com/gx/en/issues/data-and-analytics/artificial-intelligence/ publications/ai-automation-data-extraction.html

12. CCN. AI Companies Raised $50B In 2023: VC Investors Bet On Further Growth. https://www.ccn.com/analysis/ ai-companies-raised-50b-2023-vc/

13. ComputerWeekly. *RPA's day has come – the intelligent evolution of a productivity bot.* https://www.computerweekly. com/feature/RPAs-day-has-come-the-intelligent-evolution-of-a-productivity-bot

14. Andrew Ng. *Why AI Is the New Electricity.* https://www.gsb. stanford.edu/insights/andrew-ng-why-ai-new-electricity

15. IBM. *What is machine learning?* https://www.ibm.com/topics/ machine-learning

16. Antonio Torralba. *MIT Sloan and CSAIL 2019, Module 1.*

17. MIT. *Introduction to Deep Learning.* https://www.youtube.com/ watch?v=njKP3FqW3Sk&t=175s

18. The New York Times. *A.I. is Learning From Humans. Many Humans.* https://www.nytimes.com/2019/08/16/technology/ ai-humans.html

19. European Commission. *Proposal for a Regulation laying down harmonised rules on artificial intelligence.* https:// digital-strategy.ec.europa.eu/en/library/proposal-regulation-laying-down-harmonised-rules-artificial-intelligence

20. IBM. *Global AI Adoption Index 2022.* https://www.ibm.com/ downloads/cas/GVAGA3JP

21. PaymentsJournal. *Leveraging AI to Create a Smarter & More Successful Collections Process.* https://www.paymentsjournal. com/leveraging-ai-to-create-a-smarter-more-successful-collections-process/

22. Gartner. *CFOs: Here Are 4 Actions to Ensure You Implement AI — The Right Way.* https://www.gartner.com/en/articles/ cfos-here-are-4-actions-to-ensure-you-implement-ai-the-right-way

23. Accenture. *The Art of AI Maturity.* https://www.accenture. com/_acnmedia/Thought-Leadership-Assets/PDF-5/ Accenture-Art-of-AI-Maturity-Report.pdf

24. Forbes. *The Five Pitfalls Of Adopting AI In Financial Services And How To Avoid Them.* https://www.forbes. com/sites/forbestechcouncil/2022/09/27/the-five-pitfalls-of-adopting-ai-in-financial-services-and-how-to-avoid-them/?sh=43b5aafc26ad

25. Erik Brynjolfsson. *The Turing Trap: The Promise & Peril of Human-Like Artificial Intelligence.* https://digitaleconomy. stanford.edu/news/the-turing-trap-the-promise-peril-of-human-like-artificial-intelligence

26. Financial Review. *PwC warns staff against using ChatGPT for client work.* https://www.afr.com/companies/professional-services/pwc-warns-against-using-chatgpt-for-client-work-20230205-p5chzi

27. Fortune. *Prudential's CFO exceeds $750 million in cost savings one year ahead of schedule. Here's how.* https://fortune.com/2023/01/10/ prudential-cfo-exceeds-750-million-cost-savings/

28. ITDaily. *Heineken wil met RPA tot 1 miljoen manuren uitsparen in 2025.* https://itdaily.be/blogs/business/ heineken-uipath-rpa/

billtrust

Learn more

Visit billtrust.com or contact our sales team.

ABOUT BILLTRUST

Finance leaders turn to Billtrust to get paid faster while controlling costs, accelerating cash flow and maximizing customer satisfaction. As a B2B order-to-cash software and digital payments market leader, we help the world's leading brands move finance forward with AI-powered solutions to transition from expensive paper invoicing and check acceptance to efficient electronic billing and payments. With more than 2,400 global customers and more than $1 trillion invoice dollars processed, Billtrust delivers business value through deep industry expertise and a culture relentlessly focused on delivering meaningful customer outcomes.

CORPORATE HEADQUARTERS

11D South Gold Drive
Hamilton Township, New Jersey 08691
United States

SACRAMENTO

2400 Port Street
West Sacramento, California 95691
United States

GHENT

Moutstraat 64 bus 501
9000 Ghent
Belgium

AMSTERDAM

H.J.E. Wenckebachweg 200-III
AS 1096 Amsterdam
Netherlands

KRAKÓW

ul. prof Michała Życzkowskiego 19
3 piętro
Kraków 31-864
Poland

PM-BT-WP6-v3.1