

Whitepaper

Spend management in the intelligence age

Your guide to the technology that's
changing how finance teams work.





Contents

- The road to intelligent finance 3
- Removing the confusion around AI 6
- Applying AI to Spend Management 11
- Meet the Intelligent Spend Management Platform 13
- How AI works on the Yokoy platform 21



The road to intelligent finance

77%

of finance leaders are actively experimenting with AI in their financial operations.

For decades, finance leaders have looked to technology to drive efficiency, from standardising data collection on ERP software, to digitising financial records using optical character recognition (OCR), and leveraging Robotic Process Automation (RPA) to automate repetitive, manual processes.

One area of finance operations that's seen the biggest impact has been spend management — the capture, processing, verification, and approval of company spend whether it's invoices, employee expenses, or company cards.

Each technology shift has helped finance leaders further streamline their operations through digitisation and automation, freeing them up to be increasingly strategic partners to the business.

And the appetite to use technology is not going away — In fact, 66% of CFOs today are investing in technology as part of their growth strategy — a figure that's almost doubled in just one year.

Today, we're at the start of the *next* step-change in technology, one that will have a greater impact than anything that's come before.

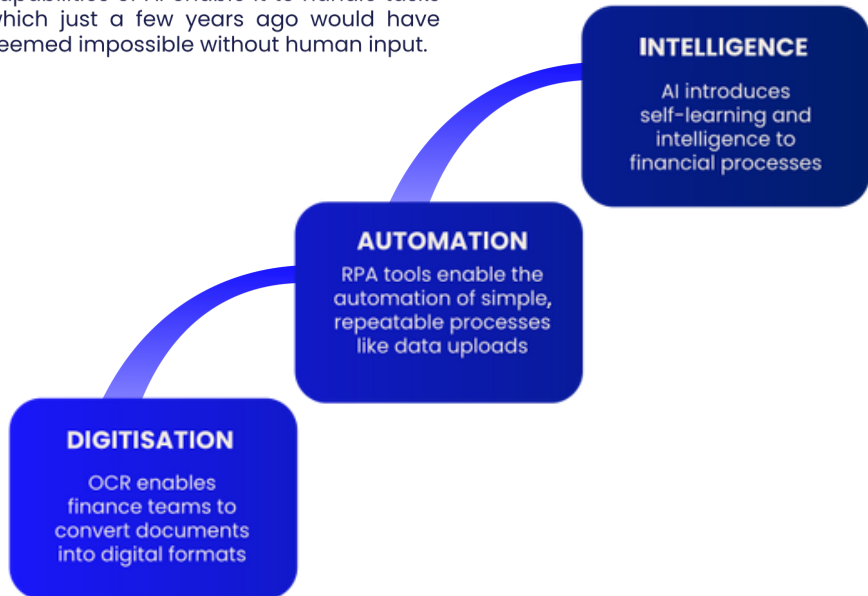
Already, it's fundamentally changing how we live, work and communicate in a similar way to personal computing in the 1990s and mobile phones in the 2000s.

What's different with AI is firstly, the speed of change. In less than two months since Open AI released ChatGPT to the general public, it had reached 100 million active monthly users, making it the fastest growing consumer application of all time.

Second, the technology goes beyond just efficiency gains to introduce something no technology has before — intelligence.

The road to intelligent finance

Unlike ERP, OCR, and RPA, which still rely heavily on manual input, the self-learning capabilities of AI enable it to handle tasks which just a few years ago would have seemed impossible without human input.





The road to intelligent finance

As companies look to grapple with rising competition, an increasingly complex landscape of international regulations, and talent shortages, AI has the potential to be a true game changer.

But like any technology shift, it's important to be able to separate the hype from reality, and to make informed decisions about the role AI plays in delivering on your strategic priorities.

The technology available today is ushering in a new era for financial operations, and

many finance leaders are making the move from automation to intelligence as they look to technology to unlock a major breakthrough in operational efficiency.

In this guide, we'll dispel some of the myths and confusion about AI and demonstrate what intelligent spend management really means for you, your teams, and your business.

LEGACY FINANCE TECHNOLOGIES

Each of these technologies has powered a jump in operational efficiency for finance teams.

OCR – optical character recognition, a technology that is able to 'read' and import characters from a document – for example a scanned copy of a paper invoice – into a machine-encoded format.

RPA – robotic process automation, an application that can repeatedly carry out a set of instructions without human intervention.



Removing the confusion around Artificial Intelligence

Removing confusion around AI

With all the hype around AI comes equal amounts of confusion. So let's break down what it is, what it isn't, and what it actually means for finance teams entering into the intelligence age.

AI is not one technology — it's a collection of different technologies that enable

machines to simulate human intelligence and problem-solving capabilities, often more accurately and quicker than humans.

In the finance function, we typically see three main applications — Generative AI, Predictive AI, and Prescriptive AI.

ARTIFICIAL INTELLIGENCE

Here's a quick breakdown of some of the most common terminology you'll hear used about AI in finance operations.

Generative AI – an application of AI used to create new content

Predictive AI – an application of AI that identifies patterns in past events to make predictions about future outcomes

Prescriptive AI – an application of AI that uses the data available to it to recommend the right course of action to achieve a particular outcome

Training data – a large dataset used to train AI. For example, OpenAI trains chat GPT on 3 datasets, the largest being information that is publicly available on the internet

RLHF – reinforcement learning from human feedback, a method used to train AI that prioritises learning from human input ahead of data

Gen AI: The Consumer face of AI

<10%

of finance leaders are currently using GenAI in their operations.
(Gartner)

Generative AI (Gen AI) has been the poster child for the last two years, not least because of tools like Chat GPT, Google Gemini, and Microsoft Co-Pilot that have put it front and center of public consciousness.

Gen AI applies to any AI used to create something, for example a piece of writing, an image, or lines of code. It's typically accessed through a 'chat' experience, mimicking human conversation and responding to a user's prompts by generating a human-like response based on a deep knowledge and training of both human language and the type of content it's producing (writing, images, code etc.).

While Gen AI is an exciting technology that's moving forward at an incredible pace, many software vendors today deploy Gen AI at a surface level, using it as a user interface rather than providing a core functionality of their products. Instead, it's often layered on top of legacy technology to create a new, more intuitive, way of interacting with a piece of software

such as a chatbot to answer customers' questions.

As the technology develops, it will undoubtedly have more applications in business beyond today's surface-level interactions, but as of now it's not had the same impact in finance as it has in the consumer space.

Predictive & Prescriptive AI

THE COST OF PROCESSING
ONE EXPENSE REPORT



- Legacy technology
- AI-powered processing

While Gen AI might attract more headlines, prescriptive and predictive AI are currently more suited to the task at hand for CFOs — streamlining the organisation's finance operations.

These two applications are already delivering bottom-line value in other areas of the business such as sales, marketing, supply chain, and many others.

Together, they provide the ability to predict outcomes and drive the right behaviour towards a specific objective.

PREDICTIVE AI

Predictive AI is a type of AI that learns from data about past behaviour to predict future outcomes.

It powers things like Amazon's product recommendations, learning on Amazon's massive dataset of consumer purchase behaviour to predict what items they are likely to buy next.

PRESCRIPTIVE AI

Then there's Prescriptive AI, which takes it one step further by recommending the next action to achieve a particular outcome — something that's become an effective tool for businesses in improving their service recovery.

Where Predictive AI might flag a customer is likely to churn, Prescriptive AI goes further in recommending what to do about it, for example offering free shipping to prevent them from churning.

Applications which use Prescriptive AI are therefore more dynamic, and able to adapt given different objectives, without the need for human intervention.

It's important to note that these applications are not entirely autonomous — they still require guidance from the business about what to do in different situations, and should be trained on things like regulatory requirements or company policies to ensure the user has complete control over what it's doing.

The makings of intelligent technology

We covered earlier the role Gen AI has played to date in providing a new user interface for many software applications in finance, and it's worth noting the limitations of that.

While Gen AI applications will undoubtedly develop further in the coming years, and ultimately become as valuable to finance teams as both Predictive and Prescriptive AI, its current application adds little in terms of core functionality to many technology products.

Used in this way, the Gen AI is only as powerful as the technology it sits on top of,

so if your existing technology is using legacy OCR and RPA as its core functionality with a Gen AI interface for example, the system is constrained by the capabilities of those core technologies.

It's akin to combining the chassis of a Porsche with the engine of a Ford Mondeo – it may look different on the surface, but the output won't be any better.

True intelligence comes from using AI as a foundational technology, whether that's Generative, Predictive, Prescriptive, or a combination of all three.

TEST YOUR TECH'S INTELLIGENCE

Here are a few questions to ask about your existing technology to ensure you've got the right foundations in place.

- **What role specifically is AI playing in the product?** If it's not part of the core functionality, there's a risk it seems intelligent but is essentially legacy technology with an AI skin.
- **Is the AI specialised?** AI trained on specific spend management data has a more detailed understanding of invoices, expenses, and payments than publicly available models.
- **Does the AI work alongside your teams?** Your people need to be able to see what it's doing, and how it's doing it, so they can work hand in hand with the technology to support, not direct them.



Applying AI to Spend Management



AI in Spend Management

37%

the increase in fraud detection accuracy when moving from legacy technology to AI (Deloitte)

Here are some ways finance teams across Europe are already leveraging AI to improve their spend management processes:

Reducing manual data entry

AI tools can automatically read, structure, and act on data in expense reports, receipts, and invoices in real-time. Operating with a far higher degree of accuracy and consistency than legacy tools like OCR, it further reduces the need for manual input, resulting in fewer errors and less time spent on costly manual tasks.

Improved compliance

AI tools that are trained on a business' policies, ways of working, and even external regulations are able to instantly identify non-compliant transactions and activity and flag them for human intervention.

Fraud detection

Because AI tools learn on large datasets of company transactions, they are able to flag anomalies and suspicious activities in real-time, helping to prevent losses to fraud.

Supplier management

Some companies now employ AI to uncover efficiencies in procurement and identify cost savings by assessing spend against both internal and external benchmarks and then use that data in renegotiating with their suppliers.

Budgeting and forecasting

By predicting future spending based on a deep understanding of historical transactions and spend data, AI can help teams and departments forecast budgets more accurately and give finance teams greater visibility into future spend.



Yokoy's Intelligent Spend Management

At Yokoy, we break spend management into three main stages.

Capture

an invoice, receipt or transaction is logged in the company's system and all relevant information is extracted.

Verify

the document is validated, with multiple checks performed against company policies, external regulations, fraud checks etc. and considered legitimate or not.

Authorise

the transaction goes through dynamic approvals based on the outcome of the verification before the spend is authorised, the accounting posting is sent to the ERP, and the funds are settled.

End-to-end Spend Management Intelligence



Capture

Uses past behaviour to understand and identify gaps and outliers in documents

Understands context based on a deep understanding of the expected document structure



Verify

Checks against company policies or country-level regulations.

Uses learnings to automatically code each line items.



Authorise

Automatically executes the right workflows or actions.

Proactively surfaces insights and recommends process improvements.

PRESCRIPTIVE AI

PREDICTIVE AI



Capture: Adding context to every transaction

Historically one of the most challenging parts of the process has been the intake. Every year, companies can receive tens of thousands of invoices, receipts, and transactions all in different formats — some digital, but many still paper-based — with little standardisation in how the data is structured.

That makes it hard for legacy tools like OCR, because they're limited to simply 'reading' what's on the document and pulling it in.

Predictive AI on the other hand adds context.

It's learned from every past transaction, as well as observed behaviour, what every datapoint means, knows where there are gaps, and how to structure that data.

The result? AI is able to instantly structure the data in the right format and fill in missing information, regardless of the format of the document.

Say for example an invoice comes in without a PO number. In the past, the accounts payable team would reject the invoice, go back to the vendor, and wait for a new invoice.

With Predictive AI however, the system automatically identifies there's no PO, calls back to the ERP or procurement software to identify the right PO, and then adds it to the system — it's understood the context, identified a gap, and filled it with no need for manual input.



"The data capture qualities of the tool increased our process accuracy and decreased human intervention."

Dorlen Kampherbeek, CFO at Crisp

Martin Hoffmann, CFO & CO-CEO,
On



Capture

LEGACY TECHNOLOGIES

Extracts information from a financial document with no additional context.

Maps information from financial documents to inflexible, hard coded templates.

Unable to add additional information

INTELLIGENT SPEND MANAGEMENT

Understands the information in a financial document without the need for human input or templates.

Structures data based on learning from past transactions and human behaviour.

Identifies 'missing' information in a document and fill the gaps.

- ☑ Reduced manual data entry thanks to increased accuracy
- ☑ Faster processing without the need to chase down missing information
- ☑ Improved consistency and accuracy in data capture
- ☑ Increased agility to handle unexpected changes



Verify: Staying in control of company spend

Once the data in a document has been structured, Predictive AI instantly runs all the checks the business needs to perform.

It checks each data point against controls set and maintained by the finance team, for example:

- company policies like spend limits or vendor/country embargo lists
- country-level or industry regulations
- fraud detection like duplicates, false information etc. to generate a fraud score

If a transaction doesn't meet the confidence level the finance team has set for any of those checks, it can be instantly flagged and routed to a member of the finance team for a manual check.

At this stage Predictive AI also handles tasks like coding line items in invoices or expense reports. Based on its understanding of transactions that have

come before, it's able to accurately code different line items as new transactions are logged in the system.

That not only means less manual work needed to code each line item on every document that comes in, but ensures costs are accurately and consistently attributed to the right cost centers in the business to help with budgeting and forecasting.



This tool is so invaluable for us that it's hard to put a number on it. It saves us so much time and energy, and embodies in financial terms the level of freedom we want our employees to live at work.

**Martin Hoffmann, CFO & CO-CEO,
On**



LEGACY TECHNOLOGIES

Requires manual input to fully verify, leading to errors.

Restricted to pre-built templates which are costly and time-consuming to manually update.

Human input required to code line items, leading to errors and inconsistencies.

INTELLIGENT SPEND MANAGEMENT

Real-time verification against whatever policies or regulatory guidelines are set by the finance team.

Learns from past transactions and human behaviour to accurately process invoices, expenses, and payments.

Smart coding automates line item coding to ensure accuracy for budgets and forecasting.

- ✓ Reduce the risk from non-compliance through AI-powered verification
- ✓ More accurate fraud detection and reduced human error
- ✓ Reduced manual workload by focusing people on outliers
- ✓ Increased accuracy for budgeting and forecasting



Authorise: **Taking the right action every time**

The last step once an invoice, expense, or payment is verified is to approve and authorise the payment — this is where Prescriptive AI steps in.

With all the context and understanding from the previous two stages, Prescriptive AI responds dynamically to each and every transaction to take the next right action.

That could mean automatically approving a payment, or sending it through one of any number of different approval workflows depending on the context of the spend like the amount, the cost center, where it was incurred, whether it's a PO invoice or not — however the business chooses to work, it will take the right action in line with their policies

What's more, because it's self-learning rather than being tied to rigid, pre-built templates, it adjusts dynamically and becomes more efficient with every transaction that goes through.

Beyond that, Prescriptive AI is also able to proactively recommend insights and improvements based on its understanding of how the company works.

By learning from all the transactions running through the company, it's able to surface insights into spend patterns, trends, and processes before recommending what action the finance team can take to improve their operations.



With Yokoy, we've found exactly the level of transparency we need for future-oriented business planning and forecasting.

Dr. Lars Kästle, CFO, Breitling



✓ Authorise

Restricted to pre-defined workflows and templates.

Restricted to a limited number of hard-coded workflows.

Long lead times and costly to update existing workflows.

Static system that's unable to adapt without human input.

INTELLIGENT SPEND MANAGEMENT

Responds to the context of a document to trigger the right workflow.

Can support an infinite number of possible workflows.

Workflows can be adjusted and updated in minutes.

Self-learning system that proactively recommends process improvements.

- ✓ Increased flexibility by adjusting to the context of a document
- ✓ Improved agility with easily updated rules and workflows
- ✓ Faster processing with no unnecessary human input
- ✓ Efficiency gains by surfacing insights and recommendations



How Yokoy's Intelligent Spend Management Platform works

The intelligent spend management platform

At Yokoy, we're working with some of the most forward-thinking finance teams around the world to help them accelerate their move to intelligent finance. And we're doing it with AI at the very heart of our platform.

In fact, it's one of the 3 core technologies that power everything on the platform:

Artificial Intelligence

A combination of Predictive and Prescriptive AI specialised in spend management that adds intelligence at every stage in the process.

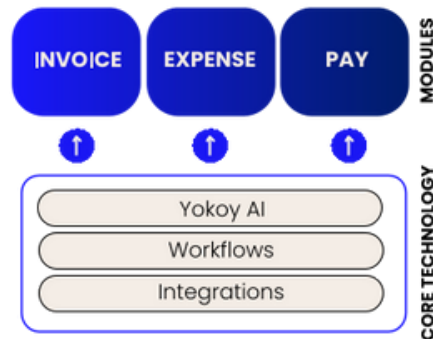
Custom Workflows

Our intuitive no-code workflow builder that enables you to easily customise how your spend management process works.

Integrations

Pre-built integrations and an open API designed to bring intelligence and automation to every part of your finance tech stack.

Our purpose-built modules for invoices, expenses, and payments bring all your company spend together into one platform, applying intelligence and automation to every part of the spend management process.





Yokoy AI

What makes our AI
unique for spend
management?

PROPRIETARY

Developed by Yokoy's AI lab in Zurich,
our AI is built and maintained
in-house.

SPECIFIC

Trained on a huge dataset of
invoices, expenses, and payments, it
has a deep understanding of
financial documents.

FOUNDATIONAL

Our AI sits at the heart of our
platform, so whatever Yokoy modules
you use, you benefit from end-to-end
intelligence and automation.

CONTROLLED

Our AI learns your company, your
processes, and your regulatory
environment and is trained using RHLF
(see p.7).

End-to-end
spend
management
intelligence

Book a demo

1 .com domain PO123 Matched IT Department

2 .co.uk domain PO123 Matched IT Department

3 .nl domain PO123 Matched IT Department

Manager

Approvals

Import

Approvals

Single expenses

Trip expenses

Invoices

Card requests

Timesheets

<input type="checkbox"/>	Adrian Press	Lunch	€48.90	Sales	06/02/2024	Overpending
<input type="checkbox"/>	Philip Curtis	Lunch	€12.20	Sales	06/02/2024	No receipt expense
<input type="checkbox"/>	Adrian Press	Coffee	€9.20	Sales		
<input type="checkbox"/>	Adrian Press	Train	€21.50	Sales		
<input type="checkbox"/>	Philip Curtis	Lunch	€14.28	Sales		
<input type="checkbox"/>	Adrian Press	Taxi	€22.25	Sales		
	Carter Darwin	Dinner	€278.00	Sales		

Policy breach

Taxi > €80

€88.90

Potential duplicate

Check similar receipt

€9.21

Overpending

Budget limit reached

€290.90

Policy breach

Dinner > \$80

Matcha Matcha Coffee

18/7/2024 9:43 AM

€5.50

€3.50

€1.40

VAT 21%

Total €11.40

Submit