

Invoice Approval Workflow: Processes, Controls and KPIs for Release-Strategy-Driven Invoice Runs

The invoice approval workflow describes the structured process by which incoming supplier invoices are checked, posted and approved by authorised parties within the company. It links procurement, goods receipt and accounting into a traceable audit trail and is thus a central instrument of fraud prevention and liquidity management. In digitalised companies, this process frequently runs as an automated approval workflow in the ERP or invoice processing system. Anyone who wants to make use of early payment discounts and avoid late and duplicate payments cannot avoid organising these processes properly.

Key facts

- The invoice approval workflow defines who may review and approve an invoice, at what amount and with what outcome type.
- The core principle is three- or four-eyes control: purchase order, goods receipt and invoice are checked for consistency (three-way match).
- Release strategy thresholds determine how many approval levels are required; typically, the number of reviewers increases with the invoice value.
- Digital workflows frequently reduce cycle time from one to two weeks to just a few days.
- Key metrics are the first-pass approval rate, the cycle time per invoice and the number of rejected invoices.
- The workflow relieves the burden on procurement and creates transparency for payment runs, early payment discounts and, where applicable, early payment programme arrangements.

Definition: Invoice approval workflow

An invoice approval workflow is a standardised, frequently automated review and approval process for incoming supplier invoices. It defines review steps, responsibilities, approval rules and escalation paths up to final payment release.

Distinction from the general approval workflow

The term approval workflow is used more broadly within the company and also covers the approval of purchase orders, contracts or statements of account. The invoice approval workflow is the specific variant for accounts payable invoices and sits at the end of the procurement chain process-wise. It draws on the results of earlier approvals: whoever has approved a blanket order or framework agreement does not need to reassess the demand for the follow-up invoice, but only needs to check quantities, prices and account assignment.

Roles involved

In the typical process, four roles work together: accounts payable for receipt control and account assignment, the specialist department or procurement for substantive review, senior management for approvals above certain thresholds, and treasury or finance for the payment run. In practice, the buyer only carries out the substantive review in cases of price differences or unclear line items; where the three-way match is clean, the invoice is frequently approved automatically. Clear role descriptions, such as in a procurement authority matrix, prevent gaps in responsibility and duplicate checks.

Invoice types: PO-based, non-PO and credit notes

Invoices with a PO reference are generally processed via the automated three-way match, in which purchase order, goods receipt and invoice are matched. Non-PO invoices, for example for services or contract manufacturing, require a manual specialist approval with account and cost object assignment. Credit notes and invoice corrections also follow a defined audit path to prevent duplicate approvals or unauthorised credit notes.

Methods and approach for building the invoice approval workflow

The structure of an effective workflow follows a proven pattern: capture invoice receipt, check automatically, route according to the result and approve with documentation. Decisive is the right combination of thresholds, review rules and responsibilities.

Three-eyes review and invoice matching

The basis is the matching of the three documents: purchase order, goods receipt and invoice. If quantity, price or delivery date deviate, the invoice is returned to the buyer or specialist department. For recurring, PO-referenced invoices with minor deviations, many companies deploy automatic approvals; in practice, more mature organisations thereby achieve first-pass approval rates of well over half of all invoices. For non-PO invoices, a project- or cost-centre-related specialist approval replaces the goods receipt check.

Thresholds and approval levels

Approval levels are defined via amount thresholds, frequently in three levels: administrative staff, department heads and management. The thresholds differ depending on material groups and the risk class of the procurement; strategic goods from modular sourcing or critical supply services are subject to stricter rules than C-items managed via catalogue administration. In addition, factual criteria can increase the number of levels, such as new suppliers without a completed credit check or invoices with changed bank details.

Receipt and master data checks

Before the substantive review, formal checks take place: completeness of mandatory details, tax number or VAT identification number, plausibility of the invoice date and automatic IBAN verification of the stated bank details. Changed account details are the most common entry point for invoice fraud, so every change to payment data should trigger separate verification by callback to the supplier. Clean master data with a maintained golden record per supplier significantly reduces deviations in the review run.

Key KPIs for managing the invoice approval workflow

An invoice approval workflow can be measured well. The most important metrics relate to speed, quality

of the first review and process costs. They form the basis for regular reviews between procurement and finance.

Cycle time and first-pass approval rate

The cycle time from invoice receipt to payment release shows how capable the process is; well-organised companies frequently keep the median under three to five working days. The first-pass approval rate measures the proportion of invoices approved in a single pass without queries or rejections. Low values indicate errors in the purchase order, goods receipt capture or supplier master data and should be analysed jointly with procurement, for example as part of procurement planning.

Error and discount rates

The rejection rate and the average number of review rounds per invoice show process quality from the supplier's perspective. The early payment discount rate reflects how many invoices are paid within the discount period; a sluggish workflow costs money directly here. Conversely, a fast workflow can be used deliberately in negotiations for discounts, for example as part of early payment programme arrangements with suppliers in need of liquidity.

Process cost per invoice

The processing cost per invoice covers staff time for receipt, review, clarification and archiving. Common benchmarks in practice lie in the low double-digit euro range for manually processed invoices, while highly automated processes frequently achieve a fraction of this. This KPI justifies investment in capture automation, vendor portals and structured catalogue processes, which in any case generate more PO references through a higher catalogue coverage rate.

Risks and controls in the invoice approval workflow

The process carries typical risks: fraud through fake invoices or changed bank details, duplicate payments, unjustified approvals under time pressure and lack of traceability during audits. Possible controls can be grouped into organisational, technical and periodic measures.

Organisational controls

Segregation of duties is the core principle: whoever places the order should not simultaneously approve the associated invoice. Delegation arrangements must be documented so that holiday cover does not lead to automatic approvals without genuine review. For sensitive supplier relationships, for example advance payments secured by bank guarantee/surety, additional approval levels or four-eyes rules are sensible.

Technical controls

On the system side, duplicate detection (invoice number, amount, supplier), plausibility checks and the mandatory three-way match protect against the most common sources of error. Changes to supplier master data and payment data are safeguarded through separate approvals with IBAN verification. Complete logging of every approval with timestamp and user ID provides the traceability evidence for internal and external audits.

Periodic reviews and supplier risks

Regular sampling of approved invoices, in particular for manually created non-PO invoices, uncovers atypical patterns. New supplier records should undergo structured pre-qualification including a credit

check before the first invoice is approved. Frozen or discontinued supplier relationships are also relevant: invoices for obsolete stock or expiring contracts deserve a separate substantive review so that legacy liabilities are not quietly paid on.

Current developments: digitalisation and AI in the invoice approval workflow

The invoice approval workflow is one of the most heavily digitalised processes in procurement and finance. Electronic invoice formats, capture automation and data-driven review rules are noticeably changing the division of roles between procurement and accounting.

E-invoicing and structured data formats

Structured electronic invoice formats such as XRechnung and ZUGFeRD have established themselves as the standard in the DACH region; for B2B companies there are legal requirements for accepting electronic invoices, the specific implementation of which should be examined on a case-by-case basis. Structured data enables fully automated invoice matching without manual capture. This accelerates the workflow and reduces error rates, but places higher demands on data quality in purchase order and goods receipt systems.

Automation, AI and self-service

Modern systems analyse invoice histories, learn cost centre assignments and propose account assignments that the clerk only needs to confirm. Anomaly detection flags conspicuous invoices, such as unusually high amounts or new account numbers, before they reach the approval levels. Supplier portals with catalogue administration and structured ordering processes increase the PO reference and thus the automatability from the outset, which is also reflected in a rising catalogue coverage rate.

Integration with procurement and governance

Invoice data is a valuable source for procurement management: realised prices can be used to derive portfolio analysis in procurement and negotiation positions, while analyses by material group and supplier provide the basis for governance in category management. In this way, the invoice approval workflow evolves from a purely administrative process into a data provider for strategic decisions, such as make-or-buy considerations towards insourcing or the evaluation of total cost of ownership of individual sources of supply.

Typical metrics

Cycle time (median): < 3–5 working days

Time from invoice receipt to payment release; manual processes are frequently significantly higher

First-pass approval rate: > 80 %

Proportion of invoices without rejection or clarification round; mature automation achieves considerably more

Early payment discount rate: > 90 %

Proportion of invoices paid within the discount period; indicator of process speed

Process cost per invoice: manual frequently €10–15, automated considerably below this

Common benchmark from practice, depending on level of capture automation and clarification effort

Rejection rate: < 10 %

Proportion of invoices returned; high values indicate errors in purchase order or master data

Practical example

A medium-sized mechanical engineering company with around 400 employees initially processed incoming invoices entirely on paper. Invoices were distributed by post, approvals were given by hand, and the average cycle time in practice was around two weeks. Early payment discounts were frequently missed, and a duplicate payment to a supplier was only discovered months later.

- Introduction of a digital capture process with automated three-way match for all PO-referenced invoices
- Definition of three approval levels with clear amount thresholds and documented delegation arrangements
- Mandatory IBAN verification and four-eyes approval for every change to supplier master data
- Monthly review of cycle time, first-pass approval rate and rejections jointly by procurement and accounts payable

Conclusion

The invoice approval workflow is more than an accounting process: it safeguards payment reliability towards suppliers, protects against fraud and duplicate payments, and delivers valuable data for procurement management. Decisive are clear thresholds, functioning segregation of duties and a high proportion of PO-referenced invoices. Digitalised processes with automated invoice matching measurably reduce cycle times and process costs. Anyone who regularly evaluates metrics such as first-pass approval rate and early payment discount rate identifies sources of error early and can continuously improve the process. Investment in this workflow typically pays for itself within a short time through avoided errors and captured early payment discounts.

Frequently asked questions

What is an invoice approval workflow?

An invoice approval workflow is the standardised review and approval process for incoming supplier invoices up to payment release. It comprises formal checks, matching against the purchase order and goods receipt, and defined approval levels. In digital systems it runs largely automatically with complete logging.

How does the three-way match work in invoice verification?

In the three-way match, purchase order, goods receipt and invoice are automatically matched for consistency of quantity, price and line items. If all three documents agree, the invoice can be approved without manual review. In the event of discrepancies, the invoice is returned to the buyer or the relevant department for clarification.

Which approval levels and thresholds are common?

In practice, two to three levels are common: administrative staff for small amounts, department heads for medium amounts, and management above a threshold that typically lies in the four- to five-figure range. The exact values depend on company size, risk profile and internal control requirements. In addition, factual criteria such as new suppliers or changed bank details can trigger additional levels.

How can invoice fraud be prevented through the workflow?

Key protective measures are three- or four-eyes control, automatic duplicate detection and strict IBAN verification for changed bank details. Every master data change should be verified, for example by callback using an already known supplier number. Regular sampling of non-PO invoices and a structured pre-qualification of new suppliers including credit checks close the remaining gaps.

How long does an invoice approval process take?

Manual processes frequently take one to two weeks in practice from receipt to approval. Digitalised workflows with automated matching often achieve cycle times of a few days or hours for standard invoices. A good benchmark is a median of under three to five working days across all invoice types.

Which KPIs are relevant for the invoice approval workflow?

The most important KPIs are cycle time, first-pass approval rate, rejection rate, early payment discount rate and process cost per invoice. Together they show whether the process is fast, low in errors and cost-effective. A low first-pass approval rate usually indicates problems with purchase order or master data quality.