

Workflow rules (P2P): automated control of the order-to-pay process

Workflow rules (P2P) are the rules stored in the procurement system that automatically govern the procure-to-pay process from purchase requisition to invoice settlement. They define who approves which steps, which checks run automatically and when exceptions are escalated. In doing so, they translate internal control and compliance requirements into transparent, verifiable system logic. For buyers and supply chain managers, they are the central control instrument for speed, security and traceability in operational procurement.

Key facts

- Workflow rules govern the P2P process automatically and replace manual forwarding and paper-based approvals.
- Typical rule components are thresholds, approval matrices, budget checks and the three-way match of purchase order, goods receipt and invoice.
- In practice, companies with well-defined rules frequently achieve automation rates of 70 to 90 per cent in invoice processing.
- Overly complex or contradictory rules generate exceptions and increase manual effort rather than reducing it.
- Workflow rules must be reviewed regularly and adjusted to organisational changes, procurement strategy and legal requirements.

Definition: workflow rules (P2P)

Workflow rules in the P2P context are system-side decision requirements that define how procurement transactions run from demand to payment. They determine routes, approvals, checks and escalations largely without manual intervention.

Position within the P2P settlement process

The P2P process typically comprises the steps of demand identification, approval, ordering, goods receipt, invoice verification and payment. Workflow rules apply at each of these points: they check budgets, require different approvals depending on value and material type, trigger goods receipt posting and control substantive invoice verification. They thus form the operational backbone of the entire settlement process. Without defined rules, the process runs on a person-dependent basis, more slowly and with greater compliance risks.

Distinction from the approval matrix

The approval matrix is only one building block of the workflow rules: it assigns value and commodity group classes to specific approvers. Workflow rules go beyond this and also govern automated checks, deadlines, escalations, cancellation paths and special cases such as down payments or call-offs against framework agreements. In practice, a clear separation is worthwhile: the matrix defines the who, the

workflow rules the how and when. Only in this way does the system remain maintainable as organisational structures change.

Typical rule types

Common rule types are value threshold rules, budget availability checks, mandatory field checks, supplier and contract checks, and tolerance rules for price and quantity deviations. In addition, there are time-based rules, such as automatic reminders for overdue approvals, and special rules for new suppliers or critical materials. Depending on the ERP and e-procurement system, these components can be configured, partly also using low-code tools without programming.

Methods and approach for defining workflow rules

Well-functioning workflow rules are not created at a desk but result from a structured analysis of the as-is process and internal control requirements. A step-by-step approach avoids overly complex rule sets.

As-is analysis and rule catalogue

The starting point is recording the current settlement process: which steps run today, where do waiting times arise, which approvals are mandatory and which are routine? From this, a rule catalogue can be derived that cleanly separates mandatory and optional criteria. Mandatory rules secure compliance, such as the four-eyes principle or budget checks; optional rules serve efficiency, such as automatic order proposals. This separation prevents convenience rules from unnecessarily slowing process speed.

Defining thresholds and exception categories

Thresholds should be based on value classes, risk classes and procurement strategy, not on individuals. Tiered approvals are common: low volumes run automatically or with a single approval, medium values with two, and large volumes with management involvement. At the same time, defined exception categories are needed, for example for emergency purchases during production downtime, with shortened but documented routes. Those who fail to regulate exceptions quickly create shadow processes and workaround solutions in practice.

Mapping and testing rules in the system

In the next step, the rules are configured in the ERP or procurement system and validated with test cases before rollout: standard purchase orders, edge cases at thresholds, invoice discrepancies, contract call-offs and exception scenarios. It is important to link them to adjacent data sets, such as the contract repository for contract checks or the goods receipt inspection plan for quality-related incoming inspections. After go-live, close monitoring of the exception rate is recommended in order to identify rule conflicts early.

Key KPIs for controlling P2P workflows

Workflow rules can only be managed if their effect is measurable. The following metrics have established themselves in practice as key control variables.

Automation and match rate

The match rate indicates how many invoices can be matched automatically against the purchase order and goods receipt. Values above 95 per cent are considered a good level; a decline indicates rule or

master data quality issues. Closely related is the touchless rate, i.e. the proportion of invoices posted fully automatically without manual intervention; in practice, 60 to 80 per cent is frequently achievable, depending on master data quality and rule quality.

Lead times and exception rate

The lead time from purchase requisition to purchase order shows whether approval levels and escalation rules act promptly; one to two working days are often realistic. The exception rate, i.e. the proportion of transactions the rule set cannot close automatically, should typically be below ten per cent. A high exception rate is the most important early warning signal for outdated or contradictory rules and thus a starting point for purchase process optimisation.

Compliance and process quality

Also relevant are the proportion of maverick buys, i.e. purchases outside the system, adherence to deadlines for approvals and the complaint rate at goods receipt. Those working with supplier shipping notifications (ASN) can additionally measure what percentage of goods receipts were reported electronically in advance. These metrics show whether the workflow rules operate not only quickly but also with process reliability and compliance.

Risks and controls in the rule set

Workflow rules are on the one hand a control instrument and on the other a risk field in themselves. Configured incorrectly or too rigidly, they create inefficiency, control gaps or circumvention behaviour.

Typical sources of error

Common mistakes are too many approval levels, which extend lead times without genuine control benefit, contradictory rules that provoke exceptions, and outdated delegation arrangements after organisational changes. Excessively generous tolerances in invoice matching are also problematic, allowing quantity or price deviations to slip through undetected. Practice consistently shows: the more exceptions are handled manually, the greater the risk that staff deliberately or inadvertently develop rule circumventions.

Controls and auditability

Effective controls rely on segregation of duties, documented exception approvals and periodic rule reviews within the audit plan. Every manual change to a transaction should be documented in an audit-proof manner, including the reason and the approver. Substantive invoice verification should, via the rule set, enforce at minimum tolerance limits for price and quantity and automatically route deviations to the invoice reviewer. Sample-based checks, comparable to the principle of cycle counting for stock, help to continuously verify rule quality.

Organisation and responsibilities

A named process owner should own the rule set, ideally staffed jointly by procurement and finance. Changes to rules should follow a controlled change process with testing and approval, analogous to software changes. Training for those involved is also important: rules whose purpose nobody understands will be circumvented. Transparency about the logic increases acceptance and sustainably reduces the exception rate.

Current developments in P2P workflow rules

Technology and regulation are significantly changing the rules of the game for P2P workflows. Three trends are currently shaping their further development.

AI-supported rule-making and exception handling

Modern systems complement static rules with pattern recognition: AI models suggest approval levels, identify suspicious invoice patterns or classify exceptions automatically. In practice, this works well as support, for example in assigning unclear invoice items or prioritising approvals. Fully automatic decisions without a control instance are currently still the exception for high-value transactions; a tiered model with final human review is advisable.

E-invoicing and regulatory requirements

The widespread introduction of electronic invoicing in Europe increases automation pressure and makes structured verification rules easier to implement. At the same time, reporting requirements are growing, for example from the Corporate Sustainability Reporting Directive (CSRD), which also affects supplier and procurement data. Workflow rules must therefore increasingly carry and check sustainability and provenance data. Companies should examine which requirements apply to them and within what timeframe, and extend the rule set accordingly.

Integration with suppliers and planning

Going forward, P2P rules will increasingly reach into upstream processes: order proposals from sales and operations planning, automatic call-offs from framework agreements and rules for supplier consolidation shift decisions earlier into the process. Scheduling will also become rule-based, for example with automatic escalations in the event of deviating delivery dates. Those who think of the rule set and procurement strategy together reduce exceptions and accelerate the entire lead time.

Typical metrics

Match rate (three-way match): > 95%

Proportion of invoices that can be matched automatically; a decline indicates rule or master data problems

Touchless rate for invoice processing: 60–80%

Proportion of invoices posted fully automatically without manual intervention achievable in practice

Lead time from purchase requisition to purchase order: 1–2 working days

Common target for tiered approval workflows for standard materials

Exception rate: < 10%

Proportion of transactions the rule set cannot close automatically; the most important early warning signal

Practical example

A medium-sized mechanical engineering company with around 400 employees previously processed invoices predominantly manually; the three-way match was carried out on paper, with approvals by email. Following an as-is analysis, the company defined a tiered rule set with four value classes, automatic budget checks and tolerance limits of typically two per cent for price and quantity deviations. Exceptions received defined escalation paths with 48-hour deadlines.

- Consolidation of the approval matrix from 14 to 5 value classes with clear delegation arrangements

- Automatic contract retrieval via the contract repository for catalogue and framework materials
- Integration of goods receipt inspection in accordance with the goods receipt inspection plan into the approval logic
- Quarterly rule review in the audit plan including evaluation of the exception rate

Conclusion

Workflow rules (P2P) are the control instrument that makes the procurement settlement process from requisition to payment reliable, fast and audit-proof. Their benefit depends less on the number of rules than on their logic: few mandatory rules, clear thresholds, defined exceptions and measurable effect. Companies should treat the rule set as a living instrument and regularly adapt it to strategy, organisation and legal requirements. Those who consistently monitor match rate, exception rate and lead times identify early where rules need adjusting. The result is a P2P process that guarantees compliance without sacrificing operational speed.

Frequently asked questions

What are workflow rules in the P2P process?

Workflow rules in the P2P process are requirements stored in the procurement system that govern how purchase requisitions, purchase orders, goods receipts and invoices are processed and approved. They include thresholds, approval matrices, budget checks and tolerance rules. In doing so, they replace manual forwarding and create audit-proof, automated processes.

How does the automatic invoice check (three-way match) work?

In a three-way match, the system compares the purchase order, goods receipt and invoice for price and quantity agreement. If all three documents are within defined tolerances, the invoice is automatically approved and flagged for payment. In the event of discrepancies, an exception rule applies and routes the transaction to the responsible reviewer.

How many approval levels make sense for purchase orders?

In practice, tiered models with one to three levels have proven effective, depending on value, risk and material type. Low volumes should run automatically or with a single approval, high values with management involvement. Too many levels extend lead times without measurably improving control quality.

What is the difference between workflow rules and the approval matrix?

The approval matrix merely assigns value and commodity group classes to specific approvers and is therefore only one building block. Workflow rules go beyond this, also governing all checks, deadlines, escalations and special cases of the P2P process. Only the interplay of both elements produces a complete, manageable set of rules.

What role do workflow rules play in invoice verification?

Workflow rules automate the substantive invoice verification by performing formal and tolerance checks and automatically routing discrepancies. They check, for example, contract references, budget availability and duplicate invoices. Manual verification remains necessary only for exceptions and particularly high-value or high-risk transactions.

How do you implement workflow rules in the ERP system?

Typically, rules are stored as configuration in the ERP or procurement system, sometimes via a low-code editor without programming. Before rollout, they should be validated with defined test cases, including edge cases and exception scenarios. After go-live, continuous monitoring of the exception rate is crucial for further development.