

# Risk classes: systematically classifying suppliers and procurement objects

Risk classes are a systematic classification of suppliers, materials or procurement objects according to their potential damage impact on the company. They form the basis for differentiated procurement management, for example when selecting inspection intensity, contract structures or safety stock levels. In practice, three to four classes are commonly distinguished, from non-critical C-parts to business-critical A-items. Those who classify risks instead of treating them uniformly save costs while at the same time increasing supply security.

## Key facts

- Risk classes classify suppliers and materials by damage potential and probability of occurrence, typically in three to four tiers.
- The classification usually combines supplier criteria (e.g. single sourcing) with material criteria (availability, substitutes, regulatory relevance).
- Critical risk classes trigger stricter measures: certifications, safety stock calculation, dual strategies or tighter contract clauses.
- The classification is not a one-off exercise but is reviewed regularly in the annual supplier review and after events.
- Risk classes link supplier evaluation, ESG risk rating and operational planning into a unified management framework.

## Definition: risk classes

Risk classes in procurement denote standardised groupings of suppliers, categories or individual parts according to their criticality. They typically combine a probability assessment (how often does the supplier fail?) with a damage assessment (what does a failure cost?).

## Distinction from ABC analysis

The classic ABC analysis classifies by revenue or value share and therefore describes only monetary importance. Risk classes complement this view with qualitative dimensions: substitutability, number of available sources, production lead times, regulatory requirements or the political stability of the supply market. In practice, both perspectives are combined, for example in a risk portfolio matrix in which procurement volume is plotted against supply criticality. A low-value C-item can therefore still fall into the highest risk class if only a single manufacturer worldwide can supply it.

## Typical class levels

A three-tier model is frequently found: risk class 1 (non-critical, standardised, multiple sources), risk class 2 (relevant, limited alternatives, moderate failure consequences) and risk class 3 (business-critical, single sourcing, long replenishment lead times or high regulatory requirements). Some companies add a class 0 or 'blocking' class for parts that can shut down entire production lines.

The number of tiers is less important than consistency: every class must entail clearly defined measures and responsibilities, otherwise the classification remains a paper exercise.

### **Objects of classification**

Risk classes can be established at various levels: at supplier level (entire supplier portfolio), at material or part level (item-related) and at category level (category-based). In practice, linking these levels is worthwhile: a supplier classified as low-risk may still receive the highest risk class for individual business-critical parts. A uniform systematics is important so that results remain comparable across sites, plants or subsidiaries and can be fed into supplier relationship management.

## **Methods and approach for establishing risk classes**

In practice, establishing risk classes follows a multi-stage process ranging from demand analysis and criteria definition through to regular updating. What matters is that the criteria are weighted, measurable and aligned within the company.

### **Defining the criteria catalogue**

Typical assessment criteria are: number of sources and degree of standardisation of the material, replenishment lead time, revenue and profit relevance of the affected products, quality risks, dependence on specific countries or ports, currency and raw material exposure as well as compliance and sustainability risks. Each criterion is usually scored with points and weighted; this yields a risk score that is mapped onto class levels. Important: the weighting should be defined on an interdisciplinary basis – involving engineering, quality, logistics and sales increases acceptance and quality.

### **Data basis and classification rate**

A risk class assessment is only as good as the underlying data. It is based on master data, delivery histories, quality metrics and supplier information. The classification rate – i.e. the proportion of fully assessed items or suppliers within the overall scope – is a key management metric: in practice, a rate well above 90 per cent for critical categories is considered a sensible target. Unclassified items should, as a precaution, be treated as risky until an assessment is available.

### **Updating within the S&OP cycle**

Risk classes are dynamic: market concentration, geopolitical events, quality problems or the company's own product changes alter the assessment. A fixed update routine has proven its worth, often aligned with the S&OP cycle, for example quarterly for critical classes and annually for the overall portfolio. In addition, event-driven re-assessments should take place, for example after insolvency indications, force majeure notifications or dramatic price movements. The results feed back into demand analysis, procurement strategy and production planning.

## **Key KPIs for managing risk classes**

Without measurable metrics, the classification remains theoretical. The following KPIs have proven effective in practice for reviewing the degree of implementation and the impact of risk class management.

### **Coverage and implementation rates**

Core metrics are the classification rate (proportion of assessed items or suppliers) and the

implementation rate of defined measures, such as the proportion of critical items with a documented contingency supplier or second source. The share of procurement volume attributable to suppliers in the highest risk class is also revealing: if it declines over several periods, this indicates successful risk reduction, for example through qualification of alternative sources or variant management for part simplification.

### **Supply and inventory metrics**

At operational level, delivery reliability, OTIF rate and shortage rate show whether the classified risks are actually under control. For high-risk items, the safety stock calculation is closely linked to the risk class: the higher the class, the higher the required service level and thus the buffer stock typically demanded. In addition, lead times and replenishment lead times provide indications of how quickly a response can be made in the event of a failure.

### **Risk costs and KPI mix**

Comparatively harder to measure but equally revealing are risk costs: costs for expedited shipments, urgent orders, downtime or scrap attributable to supply problems. A decline in these costs alongside stable delivery reliability demonstrates the effectiveness of the classification. A clear-cut mix of four to six KPIs, reviewed regularly in the procurement and annual supplier review, makes more sense than an unmanageable number of isolated metrics.

## **Risks and controls in dealing with risk classes**

The classification itself carries risks: outdated classifications, subjective assessments or measures that exist on paper but are not lived. Clear controls and process anchoring are therefore essential.

### **Misjudgements and surprise effects**

The most frequent source of error is transferring historical assessments to changed market conditions: a supplier who has been reliable for years can quickly move into a higher risk class due to a takeover, raw material shortage or export restrictions. Even seemingly harmless C-parts can become bottlenecks due to missing approvals or long certification cycles. These effects can be countered with early-warning indicators such as financial metrics, delivery date deviations or news data, automatically mapped to critical items.

### **Contractual and process safeguards**

The higher the risk class, the stronger contractual instruments should be: binding call-offs with clear quantity and delivery time bands (including formally correct 'amendment of call-offs' where changes are needed), supplier business continuity plans, retention and information obligations as well as clear escalation paths. With ongoing contracts, attention should be paid to automatic contract renewal, which can prolong dependencies unnoticed. Incoterms such as FOB also have risk-related significance, as they govern the transfer of transport risk and responsibility.

### **Governance, rollout and responsibilities**

Risk classes only work if responsibilities are clear: who classifies, who approves exceptions, who reviews measures? A rollout management routine for introducing the systematics across sites with defined approval levels has proven effective. Clear governance also prevents urgent orders being placed with risky suppliers because the standard process was too slow – precisely such workarounds obscure the actual risk situation.

## Current developments: sustainability, digitalisation and resilience

The concept of risk in procurement has broadened: alongside supply failures, compliance, sustainability and cyber risks are coming into focus, supported by digital tools and increasing regulatory requirements.

### Integrating ESG and compliance risks

Sustainability risks are increasingly mapped as a dimension in their own right within risk classes. An ESG risk rating at supplier level, disclosures on Scope 2 emissions in the supply chain energy balance and complete preference and origin documentation such as the EUR.1 movement certificate feed into the assessment. Customs and reporting obligations such as Intrastat declarations also affect risk management, for example when missing documents cause delivery delays at the border. Legal due diligence obligations along the supply chain must be examined on a case-by-case basis.

### Digital support and automation

E-procurement systems and data platforms make it easier to derive risk classes automatically from master data, delivery histories and external risk feeds. AI-supported analyses detect patterns in delivery reliability or quality data and can signal deviations at an early stage. Digital sourcing formats such as the e-auction, by contrast, are suitable mainly for standardised, low-risk items – for high-risk classes, dialogue-based selection processes with in-depth supplier qualification remain the rule.

### From risk analysis to resilient strategy

In many companies, the risk class assessment culminates in concrete resilience strategies: building second sources, regionalising procurement, increased safety stock calculation for critical parts or design changes in variant management. Agile procurement also benefits: short iteration loops and early supplier involvement in development projects reduce risks before they take effect in series production. This turns the classification from a control instrument into a strategic management instrument.

## Risk classes in interaction with suppliers and planning

Risk classes only unfold their effect in the adjacent processes: in supplier development, in demand and inventory planning and in order processing. This interlinking determines the practical benefit.

### Anchoring in supplier management

The risk class should be a fixed element of every annual supplier review: topics such as contingency plans, capacity reserves, qualification progress of second sources or sustainability measures are prioritised according to class. For contract amendments – for example an amendment with changed delivery terms – the risk class provides the basis for arguing for stricter or more relaxed provisions. Invoice and liquidity management can also be approached in a risk-oriented manner: instruments such as reverse factoring stabilise financially important, dependent suppliers and thereby reduce their default risk.

### Linking with materials planning and order processing

In materials planning, the risk class governs planning parameters: safety stock levels, order rhythms and service levels are defined by class. Within order processing, high-risk items frequently benefit from closer deadline monitoring and earlier escalation levels. Reliable framework conditions such as long-term call-offs reduce planning uncertainty, especially for critical classes, and form the basis for

stable capacity commitments from the supplier.

## Typical metrics

### **Classification rate: > 95%**

Proportion of assessed items or suppliers in critical categories

### **Measure implementation rate: > 90%**

Proportion of measures defined by the risk class that have actually been implemented

### **Volume share of risk class 3: decreasing**

A declining procurement volume share in the highest risk class indicates successful risk reduction

### **OTIF for critical items: > 95%**

Delivery reliability on class 3 items as proof of effectiveness

## Practical example

A medium-sized mechanical engineering company with around 12,000 active items introduced a three-tier risk class model. The initial assessment showed that around five per cent of the item master – mainly electronic components and special castings – fell into the highest risk class, although they accounted for less than two per cent of procurement volume. Targeted measures were derived for these items, while non-critical C-parts were migrated to standardised, automated processes.

- Classification of the entire item and supplier master data using a weighted score based on availability, failure consequences and regulation; classification rate target of over 95 per cent for critical categories.
- Establishment of second sources and contingency suppliers for all class 3 items within twelve months.
- Increase of safety stock levels for critical parts based on a revised safety stock calculation with a class-dependent service level.
- Anchoring the risk class as a mandatory topic in the annual supplier review with an annual re-assessment routine.

## Conclusion

Risk classes translate abstract supply chain risk into concrete, differentiated procurement actions. They prevent both the costly over-provisioning of non-critical items and the fatal underinvestment in business-critical dependencies. What matters is a lean criteria catalogue, high data quality and measurable implementation of the derived measures. Regular updating and anchoring in contracts, planning and supplier reviews make the model robust. Those who consistently live by risk classes act faster in a disruption and negotiate from a stronger position.

## Frequently asked questions

### **What are risk classes in procurement?**

Risk classes are tiers into which suppliers, materials or category groups are classified according to their potential damage impact. Commonly three to four classes are used, ranging from non-critical to business-critical. The classification combines probability of occurrence and extent of damage and determines the intensity of the safeguarding measures.

### **How do risk classes differ from ABC analysis?**

ABC analysis classifies by revenue or value share and therefore only considers monetary importance. Risk classes additionally take into account factors such as substitutability, number of sources, replenishment lead time and regulatory risks. In practice, both perspectives are combined, usually in a portfolio matrix.

### **Which criteria are included in the risk class classification?**

Typical criteria include number of sources and single sourcing, replenishment lead time, profit relevance of the affected products, quality and on-time delivery history, country and currency risks, as well as sustainability and compliance aspects. The criteria are weighted and consolidated into a risk score. This is then mapped onto class levels.

### **How often should risk classes be updated?**

An annual baseline review of all items is a proven approach, with more frequent updates for critical classes, for example quarterly. In addition, event-driven re-assessments should take place, for example after insolvency indications, geopolitical events or quality problems. Many companies align this routine with their S&OP cycle.

### **Which measures result from a high risk class?**

High-risk items typically receive stricter contracts, higher safety stock levels, defined contingency and second sources as well as closer deadline monitoring. In addition, suppliers are required to provide business continuity plans and early-warning indicators are monitored. Non-critical classes, by contrast, are standardised and handled through automated processes.

### **Who is responsible for assigning risk classes?**

As a rule, the responsible category manager or buyer is accountable, supported by quality, logistics and engineering. The weighting of the criteria should be defined on an interdisciplinary basis and approved by procurement management. Clear governance with defined approval and exception processes is decisive for effectiveness.