Backorder Rate: KPI for Delivery Backlogs and Supply Gaps

The backorder rate describes the proportion of order lines or order quantities that cannot be fulfilled from stock at the time of ordering and remain open as a backlog (backorder). For technical procurement professionals, it is a key early warning indicator for the supply security of their own production. A rising backorder rate signals tightening capacity, supply problems or planning errors – long before production stoppages occur. This article explains the definition, calculation, target values and measures for actively reducing the backlog rate.

As of October 2026 · amplifa-marketplace.ai/en/glossary/backorder-rate

Key facts at a glance

01 The backorder rate measures the proportion of orders not immediately deliverable as a share of all orders in a period.

02 In practice, a target value below 1–2 % is often pursued; higher values are also common depending on industry and product.

03 High backorder rates burden supply security, production planning and, in the long term, supplier evaluation.

04 Causes typically lie in safety stocks, lead times, forecast quality and supplier capacity.

05 Reliable reorder point planning, framework delivery schedules, supplier integration and strategic multi-sourcing provide remedies.

06 The KPI is most effective when interpreted together with OTIF, lead time and inventory KPIs.

Definition: backorder rate

The backorder rate (backlog rate) is the KPI for the proportion of orders or order lines that cannot be fulfilled immediately by the supplier or from the company's own stock and fall into backlog. It is typically reported periodically – weekly, monthly or quarterly – at group, plant or category level.

Distinction from out-of-stock and OTIF

The backorder rate does not describe pure non-availability (out-of-stock), but the subsequent open item: an order has been placed but cannot be delivered by the requested date. It also differs from OTIF (On Time In Full), which measures the delivery reliability of orders already delivered. In practice, the two KPIs complement each other: a low backorder rate combined with a poor OTIF rate indicates on-time delivery problems, whereas the reverse points to inventory or availability issues.

Positioning in procurement controlling

For buyers, the backorder rate is part of the core toolkit of supplier and material number controlling. It is usually considered per supplier, per material group and per plant. In category management, it serves as an indicator of whether procurement strategies – such as single sourcing or low-cost country sourcing – adequately account for the risk of supply gaps. It is therefore also a steering parameter for consolidation levers: anyone consolidating volumes must offset the resulting dependency through low backlog rates.

Calculation and data basis of the backorder rate

The calculation is formally simple but data-intensive in practice. What matters is a consistent definition: what counts as a backorder, from what point in time, and at what level (line, quantity, order). Without a uniform counting method, KPIs from different sites or suppliers are not comparable.

Formulas and numerator/denominator logic

Two variants are common: line-based – the number of order lines with backlog divided by all order lines in the period. Quantity-based – the backordered order quantity divided by the total order quantity. Alternatively, the open backorder quantity as at the reporting date is set in relation to the average order volume. Quantity-based views weight critical high-runners more heavily; line-based views reveal systemic problems across broader assortments. Many companies track both variants in parallel.

re-award. Without clean order management and well-maintained confirmation data, a significant reporting gap arises that systematic

The data basis is typically ERP or order management systems in which order confirmations, rejections and partial deliveries are consistently maintained. It is important that date shifts by the supplier are automatically recorded as backlog events and not treated as a “new date

- Document a uniform backorder definition across all plants
- Systematically record supplier order confirmations
- Map partial deliveries and date shifts as separate event types

Causes and typical triggers of high backorder rates

High backlog rates rarely arise from a single error. Several factors usually interact – from materials planning to supplier capacity to external disruptions. A structured root cause analysis is a prerequisite for effective countermeasures.

Internal causes: planning and inventory

Common internal causes include safety stocks that are too low, underestimated replenishment lead times, inaccurate demand forecasts and uncoordinated call-offs from framework agreements. Poorly maintained master data – such as outdated lead times – also leads to orders being triggered too late. Regular cost driver analysis and ABC/XYZ analysis help identify critical materials for which higher stocks or closer monitoring are worthwhile.

External causes: suppliers and market

On the supplier side, constrained capacities, raw material availability, quality problems with blocked stock, or prioritisation of other customers act as backorder drivers. For long-lead-time items and electronic components, lead times of months lead to structurally higher backlog rates. Geopolitical disruptions, export control restrictions or tariff events exacerbate the picture. A risk heatmap that assesses suppliers and materials by probability and impact of failure helps here.

Interactions with procurement strategy

Strategic decisions have a direct impact: single sourcing reduces costs but increases backlog risk. Outsourcing transitions and contract manufacturing models shift responsibility and require contractually agreed capacity commitments. Nearshoring can shorten lead times and reduce the backorder rate for critical parts – usually at the expense of higher unit costs. The KPI makes these trade-offs measurable.

Measures to reduce the backorder rate

Effective reduction is achieved through a combination of operational discipline, strategic safeguards and close supplier cooperation. The levers differ depending on the cause profile – therefore each measure should address the analysed cause.

Operational levers in order management

In day-to-day operations, precise reorder point and demand planning, well-maintained lead times, early confirmation reconciliation and active follow-up of open items count. Escalation processes with defined escalation levels – from clerk level up to management meetings – prevent critical backorders from remaining unresolved. Safety stocks and economic order quantities should be recalculated regularly based on updated demand and lead time data.

Strategic levers: diversification and contracts

At a strategic level, multi-sourcing for A-parts, coordinated framework delivery schedules with firm

call-off and capacity commitments, and reservation agreements for bottleneck materials are effective. Supplier acquisition through structured supplier discovery expands the supplier base before the bottleneck occurs. For recurring backorders, a supplier development workshop helps: capacity bottlenecks, process problems and planning interfaces are analysed jointly. Incoterms such as CIP and delivery clauses should also be chosen so that transport and handover processes do not create additional delays.

Collaborative levers: supplier integration

Deep supplier integration – such as shared demand forecasts, electronic call-off systems and early capacity notifications – significantly reduces response times. Suppliers who can see the customer's demand profile can produce in good time instead of waiting for orders. In practice, a staged model has proven effective: first transparent forecasts, then shared planning systems, and finally consignment stock or VMI models for selected material groups.

Backorder rate as a steering metric: KPIs and reporting

The KPI only unfolds its effect in interplay with other metrics and a clear structure of responsibility. Those who merely measure backorders without escalating and evaluating create reporting effort without behavioural change.

KPI combinations

In practice, the backorder rate is always considered in combination with OTIF, average lead time, inventory coverage and service level. In addition, the ageing of open backorders (backorder age) shows how long backlogs have persisted – a stagnant backlog can cause high follow-up costs over months. At material group level, the rate can be linked to the results of cost driver analysis to demonstrate which savings were bought at what supply risk.

Anchoring in supplier evaluation and sourcing

Supplier-specific backorder rates belong in supplier evaluation and should be actively addressed in quarterly business reviews. For tenders and awards, a maximum permissible value can be defined as a performance commitment. Coupling with supplier financial risk is critical: suppliers in financial difficulty often show rising backlogs before they visibly fail – the KPI thus also becomes an early warning indicator in supplier risk management.

Risks, limitations and current developments

Despite its explanatory power, the backorder rate has limitations. Used incorrectly, it can lead to mismanagement – for example through excessive inventories or the shifting of risks into unmeasured areas.

Misinterpretations and gaming

A well-known effect: suppliers generously confirm delivery dates and shift them later – the reported backorder rate remains low while the actual supply situation is poor. Confirmation compliance and date shifts must therefore be measured separately. Conversely, excessive safety stocks can optically improve the KPI while simultaneously driving up capital tied up and obsolescence. The backorder rate is a means to an end, not an end in itself; it should always be balanced against inventory and cost KPIs.

Current trends: resilience and digital transparency

Since the supply chain disruptions of recent years, supply resilience has come into sharper focus. Companies are increasingly mapping backorder data in real-time dashboards, connecting supplier portals to call-off systems and using AI-supported forecasts to predict backlogs. At the same time, multi-sourcing, nearshoring and strategic buffer stocks for critical components are gaining importance. Catalogue and data quality – such as catalogue compliance on procurement platforms – helps ensure that orders run through correctly and without subsequent clarifications, thus avoiding preventable backlogs.

Contractual and regulatory contexts

Backlogs can trigger contractual and legal consequences: contractual penalties, compensation issues in the event of production interruptions or recourse claims in disrupted supply chains. ADR issues in the transport of dangerous goods or export control restrictions can also cause delivery delays and should be addressed in contracts. Specific legal assessments must always be examined on a case-by-case basis; this article does not provide legal advice.

Typical metrics

Metric	Typical value
Backorder rate (line-based)	< 1–2 % *Common target value in industry; define stricter limits for critical material*
OTIF (On Time In Full)	> 95 % *Complements the backorder rate with the on-time delivery performance of delivered orders*
Backorder age (age of open backorders)	< 2–4 weeks *Shows how long backorders remain unresolved*
Supplier confirmation compliance	> 90 % *Prevents later date shifts from masking the backorder rate*

Inventory coverage of critical A-parts	individual, depending on lead time *Balances supply security against capital tied up*

Practical example: Mechanical engineering company reduces backorder rate from 6 to 1.5 per cent

A medium-sized mechanical engineering company with around 400 active suppliers reported a monthly backorder rate of over 6 % in the electrical components category. Due to an elevated order backlog, production-critical backlogs repeatedly occurred for drive and control components. A root cause analysis revealed: outdated lead times in the master data, unreconciled order confirmations and a single-sourcing risk for three critical items. Within six months, the rate was reduced to below 1.5 %.

- Recalculated lead times and safety stocks for A- and B-parts and cleaned up master data
- Introduced weekly confirmation reconciliation and an escalation process for open backorders
- Built up second sources via supplier discovery and structured supplier acquisition
- Agreed a framework delivery schedule with capacity commitments and shared forecasts with the main supplier

Conclusion

The backorder rate is one of the most meaningful KPIs for operational supply security in technical procurement. It reveals supply gaps early, makes procurement risks measurable and provides arguments for strategic decisions such as multi-sourcing or nearshoring. What matters is a uniform definition, a clean data basis in order management and the combination with OTIF, lead time and inventory KPIs. Those who actively manage backlogs rather than merely reporting them not only reduce the rate but also strengthen their own negotiating position and ability to deliver. The KPI should therefore be firmly anchored in supplier evaluation and category management.

Frequently asked questions

? What is the backorder rate and how is it calculated?

The backorder rate is the proportion of orders or order quantities that cannot be fulfilled immediately and remain open as a backlog. It is calculated as a ratio: the number of backordered order lines divided by all order lines in the period (or quantity-based, accordingly). A uniform, cross-plant definition is essential so that figures remain comparable.

? What backorder rate is considered good?

In practice, many industrial companies aim for a target value below 1–2 %, and often significantly lower for A-parts and critical material. Industries with long lead times, such as electronics or special-purpose machinery engineering, accept higher values. What matters is the trend over time and the combination with OTIF and inventory KPIs, not a single absolute figure.

? What causes high backorder rates?

Common causes include safety stocks that are too low, poorly maintained lead times, weak demand forecasts, and capacity or quality problems on the supplier side. Single sourcing, geopolitical disruptions or export control restrictions also increase the risk. A structured root cause analysis per material group is the first step towards reducing the rate.

? How can the backorder rate be reduced?

Effective levers include precise reorder point planning, regular reconciliation of supplier order confirmations, escalation processes for open items, and adjusted safety stocks. At a strategic level, multi-sourcing, framework delivery schedules with capacity commitments and supplier development workshops help. Deep supplier integration with shared forecasts further shortens response times.

? What is the difference between backorder rate and OTIF?

The backorder rate measures orders that cannot be fulfilled at the time of ordering and remain open. OTIF measures, for delivered orders, whether delivery was complete and on time. The two KPIs complement each other: low backorder rates paired with poor OTIF indicate on-time delivery problems, whereas high backorder rates point more to availability or planning issues.

? Why is the backorder rate important for buyers?

It is an early warning indicator of supply gaps before production interruptions occur. It can also be integrated into supplier evaluation and makes the risks of consolidation decisions or single sourcing visible. Rising values can also indicate growing supplier financial risk.

Find the right suppliers on Amplifa

Verified industrial suppliers in Germany, Austria and Switzerland. Describe your requirement and receive comparable offers.

amplifa-marketplace.ai