

Delivery Performance: Measuring and Managing Delivery Reliability Systematically

Delivery Performance refers to a supplier's ability to reliably adhere to agreed delivery dates, quantities and qualities. In industrial procurement management, the term is a central performance indicator and frequently part of supplier evaluations. Buyers use the metric to identify supply chain risks early, to underpin procurement decisions and to support annual price negotiations with objective data.

Key facts

- Delivery Performance typically measures the share of on-time and complete deliveries out of all deliveries (OTIF).
- In practice, delivery reliability of over 95 to 98 per cent for series production parts is often regarded as good to very good performance.
- The metric is usually calculated monthly or weekly per supplier and product area.
- Causes of poor values often lie in transport, production or unclear demand data – not only with the supplier.
- Delivery Performance is a core figure in supplier management and often feeds into preferred supplier programmes and framework agreement maintenance.
- Measurable delivery reliability reduces safety stocks and thus capital tied up in the warehouse.

Definition: Delivery Performance

Delivery Performance describes the quantitative and qualitative reliability of supply by a supplier. It encompasses date adherence, quantity adherence and frequently also the quality of delivery documentation. As a metric, it is usually reported as a percentage over a defined period.

Distinction from Similar Terms

The term is used inconsistently in practice. Closely related is the fill rate, which measures the proportion of demands served automatically from stock, as well as delivery reliability (on-time delivery), which only considers punctuality. Delivery Performance usually combines these individual aspects into an overall picture and can additionally include quality and documentation aspects.

Significance in Procurement Management

For technical buyers, delivery reliability is often more important than the purchase price, because line stoppages directly cause downtime costs. The metric serves as an objective basis for supplier discussions, sanctions such as withdrawal of awards or incentives such as higher volumes. It is also an input for the risk assessment of procurement and for choosing the right procurement strategy per product area.

Methods and Approach for Measurement

A robust measurement requires clear definitions: what counts as scheduled, from what point a partial quantity counts as complete, and which deviations are tolerated? Without binding measurement rules, discussions with suppliers become unproductive, because every party applies a different counting method.

Data Basis and Cut-Off Logic

The basis is purchase order line items with a promised delivery date and the actually booked goods receipt. It is customary to measure against the promised date or with a defined tolerance window, for example plus/minus one to three days depending on the criticality of the material. Capture should ideally be automated via ERP or supplier portals so that manual entry errors do not distort the metric.

Weighting and Aggregation

In practice, critical A-parts are weighted more heavily than C-parts, because their failures have a significantly more expensive impact. The waiting time until re-procurement or the context of use (series part versus spare part) can also be included in the weighting. Aggregation frequently takes place on three levels: per article, per supplier and per category team; this keeps the metric both operationally usable and reportable.

Key KPIs Surrounding Delivery Performance

Delivery Performance is embedded in a set of further metrics that together provide a picture of supply chain quality. Anyone considering only pure date adherence overlooks quantity- or quality-related failures. A sensible set of metrics therefore combines date, quantity and inventory dimensions, often bundled in an inventory health dashboard.

OTIF and Delivery Reliability

On Time In Full (OTIF) is regarded as the strictest and most meaningful variant: a delivery only counts if it arrives complete and within the tolerance window. Typical target values for series production parts are above 95 to 98 per cent. The pure on-time rate without quantity consideration is easier to achieve, but can conceal bottlenecks when partial quantities repeatedly arrive.

Supplementary Metrics

Also important are the service level or fill rate per article group, the average replenishment lead time, the number of critical date shifts as well as the shortage and complaint rates. The scrap and defect rate at goods receipt is also part of the performance picture. Anyone measuring sourcing success additionally links delivery metrics with cost metrics from the savings forecast in order not to play price and supply targets off against each other.

Risks and Controls in Supplier Management

Poor delivery performance causes diverse downstream damage: missing parts on the line, costly expedited deliveries, increased safety stocks and reputation-damaging delays towards the end customer. At the same time, the metric itself can be distorted if the buyer confirms unrealistic dates or demands are incorrectly reported. Risk minimisation therefore begins on both sides of the interface.

Root Cause Analysis Instead of Blame

Not every scheduled delivery that is delayed is a supplier problem. Frequently, internal customers change dates in an uncoordinated manner, plan too tightly, or the demand was set unrealistically high in the requirements analysis. A structured root cause analysis by category – transport, production, material availability, data quality – separates supplier-caused from internally caused failures and enables targeted improvement measures.

Contractual and Organisational Controls

Binding confirmation processes for purchase orders, defined escalation paths in the event of imminent delays and agreed reporting obligations are important. In supplier contracts, practice shows model clauses on delivery reliability targets with step-by-step consequences such as formal warnings, volume reductions or exclusion from the preferred supplier programme. Framework agreement maintenance and regular supplier evaluations ensure that performance data actually flows into sourcing decisions. For international deliveries, Incoterms such as CPT should also be clearly regulated, since responsibility for transport delays derives from the transfer arrangement.

Delivery Performance and Supplier Selection

The metric is not only a retrospective look at deliveries made, but also a steering instrument for future awards. Tenders and supplier audits should anchor demonstrable delivery performance as a hard selection criterion, alongside price, quality and sustainability.

Evaluation in the Selection Process

Before an award, a supplier feasibility review is recommended, in which, alongside capacities, the delivery history and logistical accessibility are also examined. Reference data on delivery reliability, supply concepts such as milk run connections or the level of the freight cost breakdown in the offer provide objective comparison figures. After the award, the new supplier should go through a defined ramp-up phase with shortened evaluation cycles.

Supplier Development and Sustainability

Persistently weak suppliers belong in a structured development programme with a joint action plan and clear target values. The sustainability dimension can also be included here: delivery or production processes with high scrap increase resource consumption, and evidence such as the PPWR conformity declaration for packaging or reporting under GRI Standards and the Corporate Sustainability Reporting Directive (CSRD) is gaining weight in supplier evaluations. Delivery Performance thus becomes part of a holistic supplier rating.

Current Developments: Digitalisation and Resilience

The measurement and management of delivery performance is increasingly shifting from manual lists to data-driven systems. Supplier portals, automated order confirmations and real-time tracking enable evaluations at purchase order line level without manual effort. At the same time, resilience is moving into focus alongside efficiency: the question is no longer only how punctually a supplier delivers on average, but how it behaves in crises.

Automation and Data Quality

Without clean master data and clear responsibilities, every metric remains vulnerable. In practice, the

role of a data steward has proven its worth, responsible for data quality in master data, dates and quantities as well as for clear measurement rules. The automation of adjacent processes also has an effect: a high degree of invoice automation and a structured GR/IR clearing relieve procurement and accounting and make anomalies in supplier traffic visible earlier.

Resilience and Collaborative Planning

Many companies supplement the retrospective metric with forward-looking indicators such as confirmed capacities, lead time trends or early warning signals from the supplier portfolio. Joint demand harmonisation with strategic suppliers, sometimes supported by automated detailed planning, reduces scheduling conflicts preventively. For critical commodity groups, additional alternative sources of supply and ongoing category governance help to secure supply reliability in the long term.

Typical metrics

OTIF (On Time In Full): > 95–98 %

Typical target value for series production parts; higher or lower depending on material criticality.

On-Time Delivery: > 97 %

Only date adherence without quantity consideration; less meaningful on its own than OTIF.

Fill Rate: > 95 %

Proportion of demands served directly from stock; complements the delivery metric with the inventory dimension.

Shortage Rate: < 1 %

Guideline value for the proportion of incomplete deliveries in the period; differently critical depending on the commodity group.

Practical Example

A medium-sized mechanical engineering company with around 40 active series production suppliers repeatedly recorded missing parts on the assembly line, even though the average measured delivery reliability was above 90 per cent. A root cause analysis at line-item level showed that in particular two suppliers repeatedly delivered partial quantities, which had not been reflected in the previous metric.

- Switching the measurement from a pure on-time rate to OTIF with a defined tolerance window of two days
- Introduction of binding order confirmations with delivery date via a supplier portal
- Double weighting of critical A-parts in the supplier evaluation and monthly evaluation per supplier
- Development meetings with the two conspicuous suppliers with a joint action plan and a target OTIF above 97 per cent

Conclusion

Delivery Performance is more than a date adherence metric: it makes the reliability of the entire supply chain measurable and creates an objective basis for supplier selection, development and settlement. Decisive for practical value are clear measurement definitions, a clean data basis and the linkage with adjacent metrics such as fill rate and shortage rate. Those who systematically separate root causes also recognise internally caused scheduling conflicts. Insights gained allow safety stocks to be reduced and downtime risks to be lowered. The metric is therefore an indispensable steering instrument for any industrial procurement management.

Frequently asked questions

What does Delivery Performance mean in procurement?

Delivery Performance describes how reliably a supplier keeps agreed delivery dates and quantities. It is usually measured as an OTIF rate (On Time In Full) over a defined period. The metric is a central component of supplier evaluations and sourcing decisions.

How do you calculate Delivery Performance?

The common formula is: number of on-time and complete deliveries divided by the total number of deliveries, multiplied by 100. Crucial are rules defined in advance, such as tolerance windows for date tolerances and the treatment of partial quantities. Without these rules, values from different suppliers are not comparable.

What delivery reliability value is good?

For series production parts, values above 95 per cent are considered good in practice, and above 98 per cent very good. For standard and catalogue items, even higher values are realistic. For long-lead special components or one-off purchases, lower target values can be acceptable depending on market circumstances.

What is the difference between OTIF and delivery reliability?

Delivery reliability (On Time Delivery) only considers whether a delivery arrived on time. OTIF additionally requires that the ordered quantity was delivered in full. OTIF is therefore stricter and reflects supply risks more realistically.

How can supplier delivery performance be improved?

Proven measures include binding order confirmations, regular supplier evaluations with feedback, structured root cause analyses and joint action plans. In addition, safety stocks for critical parts, clear escalation paths and, where necessary, the qualification of alternative suppliers help. Internal discipline in demand reporting and date changes is also important.

What are the consequences of poor Delivery Performance?

Possible consequences include production stoppages, costly expedite and replacement purchases, increased safety stocks and delays towards the end customer. In addition, coordination effort in procurement and reputational risk with one's own customers increase. Persistently weak values should therefore be contractually sanctionable.