

Order processing: managing efficiently from order receipt to invoicing

Order processing encompasses all steps from order receipt through scheduling, material planning and production to shipping, invoicing and after-sales support. It is the operational heart of every industrial company, connecting sales, procurement, production and logistics. It is particularly relevant for buyers because customer orders trigger demand notifications, purchase order proposals and delivery date commitments. Well-organised order processing reduces lead times, avoids shortages and strengthens delivery reliability towards customers.

Key facts

- Order processing covers the entire process from the customer's order through to invoicing and follow-up.
- Core phases are order review, scheduling, material planning, production or procurement, picking, shipping and invoicing.
- Typical KPIs are delivery reliability (OTIF), lead time, order backlog and actual costs per order.
- Practical benchmarks: over 95 % on-time and in-full deliveries and over 98 % first-pass quality are regarded as target levels in many industries.
- Digital systems such as ERP and ATP/CTP checks are increasingly replacing manual date coordination.
- Errors in order processing have a direct impact on customer loyalty, liquidity and working capital.

Definition: order processing

Order processing (German: Auftragsabwicklung; also known as order fulfilment) refers to the entirety of all organisational, administrative and operational activities required to fulfil an incoming customer order economically and on time. It begins with order receipt and only ends when the service has been delivered, invoiced and any complained items have been resolved.

Distinction from order handling

Order handling is a sub-area of order processing and primarily covers the administrative review and recording of the order: prices, terms, bills of materials and delivery addresses. Order processing in the broader sense goes beyond this and controls the entire fulfilment process including procurement, production and logistics. In many companies, however, the terms are used synonymously, which can lead to misunderstandings when working with partners.

Order types and their particularities

Warehouse orders, individual orders (Make-to-Order), frame orders with call-offs and spare parts orders place different demands. Individual orders often require a demand confirmation and availability check before commitment, while call-off orders from frame agreements rely on stable planning processes and well-maintained planning parameters. Series orders, in turn, depend on stable takt times and reliable

upstream suppliers who are integrated through professional supplier management.

Process and methods of order processing

A structured process divides order processing into clearly separated phases with defined responsibilities and handover points. A phase-oriented presentation has proven its worth, to which system configuration, role models and KPIs can be aligned.

Phase 1: order review and confirmation

At the outset, technical feasibility, prices, terms, delivery dates and the customer's creditworthiness are reviewed. A credit check is standard practice for new customers or high order values and protects against defaults. The customer then receives an order confirmation which legally binds the agreed items. Deviations between order and confirmation – for example regarding dates, quantities or standard parts – should be systematically documented to prevent later disputes.

Phase 2: scheduling and material planning

Based on the Master Production Schedule (MPS), the order is scheduled in production planning and the material requirement is derived. The availability check is often carried out using ATP (Available to Promise) or Capable to Promise (CTP) logic: the former checks stock and procurement quantities, the latter also production capacities. From the requirement derivation, demand confirmations are issued to procurement, which triggers the release of purchase orders to suppliers via purchase order proposals. Regular maintenance of planning parameters – batch sizes, lead times, safety stocks – is a prerequisite for reliable dates.

Phase 3: production, picking and shipping

In production, confirmations on quantities, times and quality are recorded; deviations may trigger rework or, in the event of serious problems, an 8D report to the supplier. After final inspection, picking, packing and loading take place. The chosen Incoterm rule such as DAP or FAS determines the point at which risk and costs pass to the customer – an aspect that is often underestimated in order processing.

Phase 4: invoicing and after-sales support

Finally, the delivery note and invoice are created, ideally promptly at the time of shipping so as not to tie up liquidity unnecessarily. Open items are tracked and complaints are handled through structured complaint management. In the event of supply bottlenecks or disruptions in the supply chain, agreed escalation routes or elements of a Business Continuity Plan (BCP) apply so that critical customers continue to be supplied on time.

Key KPIs of order processing

Without reliable KPIs, the quality of order processing can neither be managed nor demonstrated to customers. In practice, a small number of meaningful indicators have become established, which are evaluated regularly – typically weekly or monthly.

Delivery reliability and lead time

Delivery reliability (On-Time-In-Full, OTIF) measures the proportion of orders that arrive with the customer complete and on time; benchmarks for good operations are typically above 95 to 98 %. Lead time describes the period from order receipt to shipping and is the central lever for flexibility. Both KPIs

should be analysed by product family and customer segment, as blanket statements quickly lead astray.

Order backlog, costs and quality rate

The order backlog shows the order values committed with confirmed dates and allows conclusions to be drawn about capacity utilisation and schedule risks. Actual costs per order compared with calculated costs reveal estimating and production losses. The first-pass yield rate, or complaint rate, shows how error-free the process works from confirmation to delivery. In addition, stock analyses provide indications of whether planning parameters and batch sizes are still appropriate.

Risks and controls in order processing

Typical weak points lie at the interfaces: unclear responsibilities, lack of system support and poor data quality. Anyone who addresses risks systematically improves not only the schedule situation but also margins and customer satisfaction.

Common sources of error

The most common problems include a lack of capacity alignment before date confirmation, unchecked bills of materials, outdated planning parameters and manual Excel processes without system feedback. Unclear Incoterm agreements and customer requirements changed retrospectively without formal change control also regularly lead to additional costs. Individual bottleneck suppliers can block entire orders; procurement bundling levers and the deliberate reduction of dependencies help here.

Control instruments and legal aspects

Effective controls include, among other things, the four-eyes principle for price and term changes, regular review meetings for critical orders and automated warning thresholds for schedule deviations. Legally relevant aspects include, among others, warranty, retention of title, default and, for international suppliers, due diligence obligations along the supply chain – for example requirements that may arise from supply chain due diligence legislation. Whether and to what extent such obligations apply in individual cases should be professionally reviewed; this article does not constitute legal advice.

The role of procurement

Procurement is not a supporting actor in order processing; through procurement lead times, supplier reliability and costs, it significantly determines the order outcome. Instruments such as Cross-Functional Sourcing bring procurement, engineering and logistics together early on; for new developments, co-development enables shorter ramp-up times. Electronic tendering and structured enquiry processes are used for requirement enquiries to make award decisions fast and traceable.

Current developments: digitalisation and forecasting

Order processing is one of the processes that benefit disproportionately from digitalisation and data analytics. At the same time, pressure is mounting due to shorter delivery expectations and more volatile demand.

Automation and system integration

ERP systems, order portals and EDI interfaces reduce manual entries and sources of error considerably. Automatic order confirmations, digital delivery notes and integrated invoicing noticeably shorten lead times. The system landscape remains critical: many medium-sized companies work with

silos whose interfaces have to be maintained manually. This is often where the greatest lever for faster and more stable processes lies.

Forecasting and demand sensing

Methods such as demand sensing use current demand signals to detect short-term demand fluctuations earlier than classic statistical forecasts. This improves the accuracy of purchase order proposals and reduces costly short-term stock transfers. In combination with a value stream analysis, bottlenecks in the process can be made visible and systematically eliminated. Requirements for transparent real-time status data are also growing for external service providers such as 3PL providers (third-party logistics).

Typical metrics

Delivery reliability (OTIF): > 95 %

Proportion of orders delivered on time and in full; top performers typically achieve 98 %

Lead time from order receipt to shipping: industry-dependent

track as a trend KPI; absolute value varies greatly by production type

First-pass quality: > 98 %

Proportion of orders without rework or complaints

Order backlog duration (backlog): 4–12 weeks

typical benchmark in mechanical engineering; short for series production, longer for plant engineering

Practical example

A medium-sized mechanical engineering company with around 150 employees suffered from fluctuating delivery dates and high order backlogs. An analysis showed that delivery dates were confirmed without a capacity check and that planning parameters had not been maintained for years. Within one year, order processing was completely restructured.

- Introduction of a binding ATP/CTP check before every delivery date commitment
- Complete re-maintenance of all lead times, batch sizes and safety stocks plus monthly maintenance of planning parameters
- Consolidation of recurring standard and bought-in parts via a bundling lever with selected suppliers
- Weekly order review with OTIF, backlog and open changes as the standard agenda

Conclusion

Order processing is more than administrative work: it determines whether commitments made to customers are kept and whether calculated margins are realised. A cleanly structured process with clearly separated phases, reliable master data and a small number of consistently tracked KPIs forms the foundation. Procurement, as a partner to sales and production, bears considerable responsibility, particularly through procurement speed and supplier quality. Digitalisation and better demand forecasts offer substantial levers, but require well-maintained data. Those who establish these fundamentals turn order processing from a source of errors into a competitive advantage.

Frequently asked questions

What does order processing involve?

Order processing encompasses all steps from order receipt through review, confirmation, scheduling, material planning and production to shipping, invoicing and complaint handling. Interfaces with procurement, such as demand confirmation and purchase order release, are also part of the process. Depending on the order type, further steps such as set-up control or export processing may be added.

Which KPIs are measured in order processing?

The most important KPIs are delivery reliability (OTIF), lead time from order receipt to shipping, order backlog, actual costs per order and the complaint or first-pass quality rate. In practice, OTIF values above 95 to 98 % are considered a good level, although there are industry-specific differences. It is important to evaluate KPIs by product family and customer segment.

What is the difference between order processing and order handling?

Order handling is the administrative part, i.e. reviewing, recording and confirming the order. Order processing additionally covers the operational control through to delivery and invoicing, including procurement, production and logistics. As the two terms are often used synonymously, a clear internal definition is recommended.

How can order processing be improved?

Typical levers are a binding availability check before confirming delivery dates, well-maintained planning parameters, the reduction of manual silo solutions and a regular order review with clear KPIs. A value stream analysis helps to make bottlenecks in the process visible. Collaboration with suppliers via electronic enquiry and ordering processes also shortens lead times.

What does Capable to Promise mean?

Capable to Promise (CTP) is an availability check that includes not only stock and procurement quantities but also available production capacity. Unlike Available to Promise (ATP), the system can thus give more realistic delivery date commitments when orders still have to be produced. Up-to-date capacity and routing data are a prerequisite.

What role does procurement play in order processing?

Procurement converts the requirements derived from customer orders into purchase orders, monitors delivery dates and secures quality and costs. Through purchase order proposals, electronic awarding processes and good supplier management, it directly influences lead time and delivery reliability. Bottleneck situations require close coordination between procurement, planning and sales.