

Disposition Parameter Maintenance: Keeping DISO Parameters Systematically Under Control

Disposition parameter maintenance refers to the continuous updating and monitoring of the master data and parameters that control automatic planning systems in the ERP or inventory management system. These include planning base values, lot sizes, lead times, safety stocks, replenishment intervals and planning methods. Well-maintained parameters are the foundation for reliable stock levels, on-time deliveries and low capital tied-up – neglected parameters, by contrast, generate planning errors with direct consequences for material availability and inventory costs.

Key facts

- Disposition parameter maintenance covers the regular updating of stock level, lot size and lead time parameters in the ERP system.
- Neglected parameters are one of the most common causes of chronic overstock or understock in materials management.
- In practice, typically 10 to 20 per cent of all material master records are identified and re-evaluated as critical each year.
- Key metrics include inventory coverage, forecast accuracy, stockout rate and the share of outdated parameters.
- Maintenance should be integrated into fixed processes, for example after price negotiations, technical changes or supplier changes.
- Artificial intelligence and automatic suggested values now support manual planner work but do not replace it.

Definition: disposition parameter maintenance

Disposition parameter maintenance is the systematic process of recording, reviewing and adjusting all master data and control parameters that influence automatic material planning in the ERP system. It belongs to the operational data management of procurement and the supply chain and forms the data foundation for demand determination, purchase order proposals and inventory holding.

Which parameters belong to maintenance?

The central parameters include the MRP type (demand-driven, consumption-based or stock-based), the lot sizing procedure with fixed or optimum cost lot sizes, procurement time and processing time, safety stocks and service levels, as well as lot size factors and planning strategies. Added to this are commodity-group-specific data such as ABC and XYZ classes, which describe the plannability of the material. Spare part indicators, lot fixation dates and demand explosion horizons are also included in many systems.

Distinction from master data management

Disposition parameter maintenance is a sub-area of general master data management, but it has its own dynamics: while item numbers, units of measure or drawing references are largely static, disposition parameters change continuously due to market developments, technical adjustments and fluctuations in consumption. It therefore requires a continuous, rolling process with defined responsibilities, not a one-off creation of material master records.

Methods and approach in disposition parameter maintenance

A robust process combines scheduled cycles with event-driven maintenance. The basis is methodical analyses such as the ABC/XYZ analysis, from which parameter-related recommendations for action can be derived per material class.

ABC/XYZ analysis as a control instrument

The ABC analysis assesses materials by value share, the XYZ analysis by consumption and forecast stability. Combined, they yield a matrix that translates directly into parameters: high-value, stable items (AX) can tolerate lower safety stocks and larger lot sizes, volatile items (AZ or CZ) require flexible MRP types or manual planning. In practice, the matrix is typically updated once or twice a year and the parameter derivation is reviewed each quarter.

Scheduled and event-driven maintenance

Scheduled maintenance is usually carried out in fixed cycles, for example quarterly for A-class materials and annually for C-class items. Event-driven corrections are made after price negotiations (new order quantities, early payment discount calculations), after supplier changes or new Incoterms clauses that alter lead times, after technical changes with phase-out and ramp-up phases, and after demand changes caused by new projects. Every change should be documented and versioned with a justification.

Roles and responsibilities

In practice, planners, material group owners and data services share the task: planners assess matters from an expert perspective, procurement provides information on lead times, minimum order quantities and framework agreements, and IT or a data management team supports with system proposals and mass maintenance. A procurement competency matrix helps make these responsibilities transparent and reveal qualification gaps.

Key KPIs for controlling parameter quality

The quality of disposition parameter maintenance can be measured. Suitable metrics show whether stock levels, availability and planning quality are within the target corridor and whether the maintenance process itself works.

Inventory and availability metrics

Key figures are inventory coverage, inventory turnover, the share of obsolete or excess stock, and the stockout rate or delivery service level towards production. If stock levels rise without any increase in demand, this points to excessive safety stocks or outdated lot sizes. Frequent material shortages despite high stock levels indicate incorrect MRP types or unrealistic lead times.

Process and data quality metrics

At process level, proven measures include the share of material master records without a review date, the number of parameter changes per period, the share of manual corrections following automatic planning, and forecast accuracy or forecast error. In addition, the rate of automatic purchase order proposals adopted without changes shows how much confidence planners have in the parameterisation – a low value is an early warning signal.

Economic evaluation

A cost–benefit analysis can compare maintenance effort and benefit: capital tied up that is saved, stockout costs avoided and reduced stocktaking effort are set against the personnel effort. In practice, systematic maintenance pays off primarily for A- and B-class materials, while C-class items are often managed with simplified, robust parameters.

Risks and controls in disposition parameter maintenance

Neglected or incorrect parameters cause tangible damage: overstock ties up liquidity, safety stocks set too tightly stop production lines, and incorrect lead times create chaos in scheduling agreements. Controls must therefore safeguard both the data itself and the change process.

Typical error patterns

Common issues include legacy parameters from the system implementation that were never questioned, parameters copied when creating new materials, safety stocks raised in reaction to individual stockouts (overrides), and a failure to delete phase-out items that generate phantom demand. Duplicate material numbers and incomplete change pointers also lead to incorrect orders. An Ishikawa diagram helps systematically structure the causes of these error patterns and assign countermeasures.

Controls and the four-eyes principle

Effective controls include change logs with a mandatory justification, thresholds for manual overrides, periodic spot checks by a second person and analysis of stock without consumption. A supply risk management approach complements maintenance with a supplier-side risk perspective: anyone with only one supplier for critical material (no multiple sourcing) should parameterise conservation stock more deliberately than when several sources of supply exist.

Escalation in the event of disruption

If parameter errors have already led to shortage situations, a defined escalation path is needed, up to and including a crisis team for supply bottlenecks. In parallel, structured supplier escalation with the supplier helps to secure additional quantities or short-term prioritisation. Afterwards, a root cause analysis should ensure that the underlying parameters are corrected – not just the symptom.

Current developments and digitalisation

Disposition parameter maintenance is increasingly supported by data analytics and artificial intelligence. Systems automatically determine suggested values for lot sizes and safety stocks from consumption history and supplier performance, and proactively flag conspicuous master records.

Automatic suggested values and AI

Modern ERP and planning systems calculate statistically sound parameters from historical consumption

data, variability measures and delivery times. AI-based methods also learn from planner decisions and check which manual corrections recur – these can then be converted into parameters. What remains important: automatic suggestions are a basis for decision-making, not a substitute for expert review, especially for strategically important materials.

Integration with suppliers and processes

Parameters are closely linked to the procurement organisation. With scheduling agreements and short-term time windows, safety stocks can be lower than with open purchase orders; with joint business plan (JBP) arrangements with strategic suppliers, volume and capacity alignments must be maintained. Incoterms such as Incoterms FCA, Incoterms DAP or Incoterms DPU also change lead and transport times and thus procurement time in the system – after every logistics change, the parameter review belongs on the task list.

Keeping complexity in view

The larger the material range, the more important complexity reduction becomes as a precursor to parameter maintenance: every item eliminated and every variant consolidated permanently reduces maintenance effort. A regular supplier landscape analysis and supplier segmentation complement the material view with the sourcing side and facilitate prioritised maintenance.

Typical metrics

Inventory coverage: 30–90 days

Target corridor per material class; deviations indicate parameter errors

Stockout rate: < 2%

Share of assembly stoppages or backlog reports due to missing materials

Share of unreviewed material master records: < 10%

Material numbers without a review date within the defined cycle

Forecast accuracy: > 80%

Hit rate of demand forecasts; typical benchmark varies by industry

Purchase order proposal acceptance rate: > 90%

Share of automatic proposals adopted without changes

Practical example

A mid-sized mechanical engineering company with around 25,000 active material numbers recorded rising stock levels alongside frequent material shortages in assembly. An analysis revealed that a large proportion of the disposition parameters had never been reviewed since the system implementation; some lead times dated back to the era of supply sources that no longer existed. The company established a rolling maintenance concept with an ABC/XYZ matrix and defined responsibilities.

- Quarterly review of all A-class materials, annual cycle for B- and C-class items with a documented obligation to justify
- Automatic system proposals for safety stocks and lot sizes, approval by the planner under the four-eyes principle
- Event-driven parameter review after every supplier, Incoterms or technology change
- Monthly KPI reporting on inventory coverage, stockout rate and share of unreviewed material master

Conclusion

Disposition parameter maintenance is an unglamorous but economically highly effective field of procurement and the supply chain. It combines data quality with inventory optimisation and delivery capability and does not require a new system, only discipline within the existing one. What matters are clear responsibilities, measurable metrics and a fixed cycle, supplemented by event-driven reviews when changes occur. Those who treat parameters as living data and maintain them create the foundation for reliable automatic planning. Neglect, by contrast, costs several times over: through tied-up capital, material shortages and emergency measures in day-to-day operations.

Frequently asked questions

What does disposition parameter maintenance mean?

Disposition parameter maintenance is the regular review and adjustment of the master data and control parameters that determine automatic material planning in the ERP system. These include MRP type, lot sizes, lead times, safety stocks and planning horizons. The aim is accurate purchase order proposals, available materials and lean inventory levels.

How often should disposition parameters be reviewed?

A risk-based cycle is common: A-class materials typically quarterly, B- and C-class items every six to twelve months. In addition, maintenance should always be triggered by specific events, such as price negotiations, supplier changes, Incoterms changes or technical modifications. A documented, traceable change process is essential.

Which KPIs measure the quality of disposition parameters?

Suitable metrics include inventory coverage, inventory turnover, stockout rate, delivery service level and forecast accuracy. At process level, the share of unreviewed material master records, the number of manual corrections and the acceptance rate of automatic purchase order proposals indicate maintenance quality. Rising inventory combined with declining availability is a classic warning sign of incorrect parameters.

What are the consequences of neglecting disposition parameter maintenance?

The consequences are overstock and incorrect stock, unnecessarily tied-up capital, chaotic purchase order proposals and ultimately material shortages with production stoppages. Planners often respond with manual overrides, which further distorts the system data. In the long run, the automatic planning system loses acceptance and manual effort increases.

What role does procurement play in disposition parameter maintenance?

Procurement provides crucial input data: procurement and replenishment lead times, minimum order quantities, framework agreement volumes, supplier performance and Incoterms agreements. Procurement also assesses supplier-side risks that influence safety stocks and alternative sources. In many organisations, procurement shares responsibility for the parameterisation of the material groups it manages.

Can AI automate disposition parameter maintenance?

AI-supported systems can calculate suggested values for lot sizes and safety stocks and automatically

flag conspicuous material master records. They significantly accelerate maintenance and reduce routine work. However, expert approval, especially for strategically important material, remains the responsibility of planners and procurement.