

Inventory Issue Analysis: Systematically Evaluate Stock Movements and Reduce Costs

Inventory issue analysis is the systematic evaluation of all goods withdrawals from the warehouse over a defined period. It shows which materials are consumed in which quantities, for which cost centres and orders, and thus provides the data-based foundation for planning, inventory policy and demand planning. For buyers and supply chain managers, it is a central instrument for reducing capital tied up, avoiding poor planning decisions and ensuring availability to deliver.

Key facts

- Inventory issue analysis systematically evaluates all material withdrawals by quantity, value, period and consumer.
- It provides the data basis for ABC/XYZ analyses, safety stocks and planning parameters.
- In practice, a distinction is usually made between withdrawals due to production consumption, transfers, stocktake discrepancies and shrinkage.
- Typical findings include obsolete stock, shrinkage and residual stock no longer required on a permanent basis.
- The analysis frequently runs automatically from ERP or warehouse management systems and is evaluated monthly or quarterly.

Definition: inventory issue analysis

Inventory issue analysis is the structured evaluation of all inventory issues, i.e. all stock reductions in the warehouse, within a defined review period. It quantifies and qualifies which material leaves the warehouse in which quantity and for what purpose.

Distinction from simple inventory reporting

While an inventory report merely reflects the status at a key date, inventory issue analysis looks at movements over time. It answers not only how much of an item is available, but why the stock has arisen and how it is likely to develop. This makes it a control instrument, not just a documentation tool.

Types of inventory issues

In practice, issues are typically evaluated separately by cause. Only this separation makes the analysis meaningful.

- Production consumption: manufacturing withdrawals against production orders
- Consumption for service, maintenance or prototyping
- Transfers and rebookings between sites or storage locations
- Stocktake discrepancies and shrinkage as an indicator of process or data errors
- Scrap, expiry or storage losses for perishable or ageing materials

Methods and approach of inventory issue analysis

A robust approach consists of four steps: secure the data basis, classify the issues, identify patterns and derive actions. Methodological quality depends less on sophisticated tools than on clean master data and consistent posting logic.

ABC and XYZ analysis as an evaluation framework

Inventory issue analysis is often combined with procurement portfolio analysis: ABC analysis classifies items by consumption value, XYZ analysis by consumption continuity. Class X items show steady demand and can be planned automatically with ease, whereas Z items with sporadic issues require qualitative demand forecasts and, where appropriate, order-based processing. Item groups classified in this way are given different safety stocks and procurement strategies.

Valuation and allocation of issues

Issues are typically valued at moving or fixed average prices; the resulting price deviations between the actual purchase price and the material master price feed into the Purchase Price Variance (PPV). Consistent allocation to cost centres and orders is important so that the analysis does not cause misallocation. Periodic reconciliations between accounting and warehouse management are standard practice.

From finding to action

The analysis only has an effect once findings are translated into concrete planning decisions. Proven follow-up measures include adjusting planning parameters, utilising or returning residual stock, targeted framework agreement maintenance for continuously consumed items and an escalation path for recurring shrinkage. A documented procurement guide helps apply the derived rules in a binding manner.

Key KPIs of inventory issue analysis

KPIs make the analysis measurable and comparable. They are collected monthly or quarterly depending on industry and maturity level; benchmarks must always be interpreted on a company- and industry-specific basis.

Inventory turnover and coverage

Inventory turnover relates annual consumption to average stock; in practice, values between roughly 4 and 20 turns per year are considered usual depending on material type. The inventory coverage derived from this shows how many weeks an item is covered at the current issue rate. Notably long coverage periods with a high value share indicate overstocking.

Shrinkage rate and stocktake discrepancies

The shrinkage rate relates unexplained stock losses to total turnover. Target values in the low percentage range are often sought; what matters is classification by storage location and item group, as anomalies often arise locally – for example through faulty posting processes in goods receipt.

Forecast accuracy and delivery capability

Forecast accuracy of planning compares forecast with actual issues and thus measures the quality of demand planning. Large deviations lead either to shortages that jeopardise throughput time in

production or to stock build-up. Both KPIs belong to the standard reporting of modern planning.

Risks and controls

Inventory issue analysis reveals not only economic but also procedural and compliance-related risks. Its informative value stands and falls with the data quality of the underlying postings.

Data quality as a critical factor

Incorrect units of measure, outdated material master data or subsequent rebookings considerably distort the picture. A documented data quality score for item master data helps systematically identify and clean up critical data records. Without reliable data, there is a risk of wrong decisions on order quantities and supplier terms.

Process and control risks

Recurring shrinkage can indicate unplanned withdrawals, missing goods receipt checks or, in extreme cases, loss. Clear permission structures, a documented procurement approval workflow for off-site bookings and regular stocktakes counteract this. When selling obsolete stock, contractual points such as retention of title on resale of goods already delivered must also be checked.

Do not jeopardise delivery capability

Inventory reduction based on the analysis must not lead to under-coverage of critical materials. For items with a high supplier failure risk, deliberately higher safety stocks are often accepted. Coordination with requisition management and ongoing development projects prevents materials that have just been changed over from being wrongly classified as obsolete stock.

Current developments and digitalisation

Automated data analysis, integrated ERP systems and AI-supported demand forecasts are changing the way inventory issue analyses are produced and used. The manual report is increasingly being supplemented by continuous evaluations.

Automation and real-time evaluation

Modern ERP and warehouse management systems provide issue data in near real time, so deviations are detected earlier. Automatic alert thresholds for unusual issues or discrepancies partly replace the classic period-by-period view. A clean purchase-to-pay process chain remains a prerequisite so that movement data arrives completely and consistently.

Forecasts and AI support

Machine learning approaches use historical issue patterns to create consumption forecasts and dynamically adjust safety stocks. Particularly for Z items with irregular demand, they also draw on external signals such as order books or seasonal patterns. Such models increase forecast value, but do not replace professional plausibility checks by planning.

Integration into sustainability and reporting

Issue data is increasingly also incorporated into sustainability reports, for example to determine material losses along the value chain. Concepts such as the Product Environmental Footprint (PEF) require reliable consumption data per item. A clean inventory issue analysis provides a sound data basis here.

Typical metrics

Inventory turnover: typically 4–20/year

varies considerably by material type and industry

Shrinkage rate: < 0.5%

usual target value for inventory; classification by storage location required

Forecast accuracy of planning: > 90%

proportion of items with consumption in line with forecast

Inventory coverage: 4–12 weeks

typical benchmark for series material; often higher for C items

Share of obsolete stock: < 5% of inventory value

typical value in mature inventory management processes

Practical example

A mid-sized mechanical engineering company with around 12,000 stock-kept items found that the inventory coverage of critical standard components was steadily rising while shortages were occurring in production at the same time. A systematic inventory issue analysis over 24 months showed that a large share of the stock related to items whose consumption had already collapsed due to a product change, while fast-moving purchased parts were being planned irregularly.

- Introduction of a combined ABC/XYZ classification with different planning logics per item class
- Disposal of obsolete stock via clearance sales and return to suppliers after consultation
- Monthly standard reporting on shrinkage rate and forecast accuracy with defined escalation thresholds
- Linking issue data to requisition management so that changed-over items are correctly assessed

Conclusion

Inventory issue analysis is far more than a warehouse statistic: it links stock movements with planning, cost control and process quality. Anyone who consistently separates issues by cause and classifies them within ABC/XYZ structures identifies obsolete stock, shrinkage and overstock early. The results feed directly into order quantities, safety stocks and supplier negotiations. The prerequisites are clean master data and disciplined posting logic. Those who establish these foundations sustainably reduce capital tied up while simultaneously increasing the production department's delivery capability.

Frequently asked questions

What is inventory issue analysis?

Inventory issue analysis is the systematic evaluation of all goods withdrawals from the warehouse over a defined period. It shows which items are consumed in which quantities and for what purpose, thereby providing the data foundation for planning, safety stocks and inventory policy.

What is inventory issue analysis used for in procurement?

It gives buyers reliable consumption data for negotiating volumes, maintaining framework agreements and determining safety stocks. Deviations between planned and actual issues reveal poor planning decisions. It also allows early identification of materials whose demand disappears due to product

changes.

What are typical causes of shrinkage?

Common causes are unplanned withdrawals without posting, errors in goods receipt or in transfers, and incorrect units of measure in master data. Expiry and shrinkage of certain materials also play a role. Analysing by storage location and item group helps narrow down the causes.

How often should an inventory issue analysis be carried out?

In practice, monthly or quarterly evaluations have become established, supplemented by automatic alerts for unusual movements. For strategic decisions such as range rationalisation, an annual in-depth analysis is usually sufficient. What matters is the regular follow-up of derived actions.

Which KPIs belong to inventory issue analysis?

Core KPIs are inventory turnover, inventory coverage, shrinkage rate, forecast accuracy of planning and the distribution of consumption value by ABC class. In addition, shortage rates and inventory value per item class are often reported. Benchmarks must be interpreted by industry and by company.

How does it relate to ABC analysis?

ABC analysis classifies items by consumption value, which is calculated from issue data. Inventory issue analysis thus provides the data basis, while ABC/XYZ analysis strategically classifies the items. Both tools are usually used together in practice.