Variance analysis: plan-actual comparison as a steering instrument in procurement

Variance analysis is the systematic comparison between planned and actual outcomes in procurement, production and logistics. It helps buyers and supply chain managers to identify the causes of variances at an early stage and to take targeted corrective action. In day-to-day industrial practice, it serves as a central early-warning and steering instrument that makes procurement objectives measurable.

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

Key facts at a glance

01 Variance analysis systematically compares target and actual values, for example in terms of costs, quantities, deadlines or quality.

02 Typical types of variance are price, quantity, delivery date and quality variances.

03 In practice, the analysis is often carried out monthly or quarterly, and daily for critical parts.

04 Key figures include, among others, delivery performance, the service level and cost variance.

05 The results of variance analysis feed directly into supplier discussions, framework agreement negotiations and procurement policy.

Definition: variance analysis

Variance analysis refers to the structured examination of differences between planned (target) and actual (actual) values. It is a classic controlling instrument and, in procurement, is typically applied to costs, quantities, delivery dates and quality.

Distinction from other controlling instruments

Variance analysis is narrower in scope than comprehensive reporting: it concentrates on differences

that require explanation and their causes. While key figure systems depict the current state, variance analysis answers the question of why the state deviates from the plan and what action follows from this.

Fields of application in procurement

Typical areas are material price variances, contribution margin variances in manufacturing services, delivery date variances and quality variances in goods receipt and complaint assessment. The analysis also provides valuable insights for capacity planning and in the planning horizon of materials planning.

Types of variances in procurement

Not every variance should be assessed in the same way. A meaningful analysis requires a sound systematic approach so that causes are not conflated.

Price and cost variances

Price variances arise when purchase prices deviate from the calculated or contract price. Common causes are surcharges, unfavourable framework agreement terms, currency effects or changed raw material markets. A preference calculation helps to cleanly separate country-specific effects such as customs duties or preference origins from the supplier's actual price behaviour.

Quantity and schedule variances

Quantity variances occur when call-off or delivered quantities deviate from the planned values, for example due to changes in demand or shortfalls at the supplier. Schedule variances show up in delivery performance and can be mitigated in the short term through alternative sourcing or safety stock.

Quality and performance variances

Variances in inspection characteristics according to the inspection instruction lead to scrap, rework or blocked stock. Here, variance analysis is closely linked to quality management, in particular with 8D containment measures in the case of recurring defects.

Methods and approach of variance analysis

A sound approach usually follows a four-step pattern: measure, explain, assess, act. The prerequisite is a reliable, consistent data basis from ERP and procurement systems.

Define target values and secure the data basis

Target values come from calculations, framework agreements, bid comparisons or production plans. It is important that the reference is clearly defined: a variance against the framework agreement has a different meaning than one against the annual budget calculation.

Cause analysis and differentiation

Proven methods include variance calculation (price, quantity and structural effects), ABC analyses to concentrate on the most significant items, and cause-and-effect diagrams. In practice, it has proven useful to distinguish between plannable, communicable and unexplainable variances – only the last category is action-relevant.

Derive and follow up on measures

Concrete measures follow from the findings: price negotiations, adjustment of the planning horizon, qualification of new suppliers or changes to procurement policy. The analysis is only effective if measures are assigned to responsible persons and deadlines, and their effectiveness is verified in follow-up reports.

Important KPIs and metrics

Key figures are what make variances visible and measurable in the first place. The selection should be guided by the procurement objectives, not by data availability.

Delivery and logistics key figures

Central metrics are delivery performance, the service level and schedule adherence at goods receipt. In addition, figures on inventory accuracy and forecast accuracy provide indications of systematic variances within the planning horizon.

Cost and price key figures

Typical are the material price variance, procurement savings against the baseline and target achievement rates under framework agreements. For services and manufacturing outputs, capacity planning utilisation is also often evaluated in terms of variances.

Quality and supplier key figures

Supplier evaluations aggregate scrap rates, complaint assessments and response times into an overall picture. Variances in the supplier scorecard are an early signal for issue-specific topics such as requalification or contract renewal decisions.

Risks, controls and legal aspects

Variance analyses are only as good as their data quality and their anchoring in the decision-making process. Moreover, variances may have tax and contractual implications.

Data quality and interpretation risks

Common pitfalls are inconsistent master data, different price-quantity bases between target and actual, and time lags between posting and delivery. Without a cleansed basis for comparison,

misinterpretations and wrong measures loom.

Variances in invoices and taxes

In the event of price or quantity variances between order and invoice, substantive invoice verification applies. In the course of a tax audit, the document and posting maintenance for matching deliveries with services may be of tax relevance; specific assessments must always be clarified with tax advisers on a case-by-case basis.

Contractual consequences

Systematic schedule or quality variances can trigger contractual sanctions, replacement deliveries or the termination of a framework agreement. The documented variance analysis provides the fact-based basis for supplier discussions and escalations here.

Current developments and digitalisation

Variance analysis is increasingly shifting from retrospective monthly reviews to continuous, automated evaluations. Data analytics and AI support pattern recognition and early warning.

Automated early-warning systems

Modern ERP and analytics environments detect threshold breaches almost in real time, for example in the case of delivery date shifts or price change requests. This brings variance analysis closer to operational materials planning.

Risk management and resilience

In the context of supply crises, many companies combine variance analysis with risk monitoring and market-model-based sourcing strategies. Variances in supply capability or raw material prices then trigger scenarios for alternative sourcing at an early stage.

Interlinking with strategy and innovation

Insights from recurring variances increasingly feed into strategic processes: from innovation management in procurement and outsourcing potential analyses to targeted prototype sourcing for development parts, where planned variances must be factored into the calculation.

Typical metrics

Metric	Typical value
Delivery performance	typically > 95% *variances below this benchmark indicate schedule problems at the supplier*

Material price variance	commonly a target corridor of ± 2–3% *larger variances require cause clarification and, if necessary, price negotiations*
Scrap rate	in practice often < 1% *industry-dependent; quality variances may trigger containment measures*
Forecast accuracy	typically 70–90% *low accuracy leads to quantity variances within the planning horizon*

Practical example

A medium-sized mechanical engineering company finds in its monthly variance analysis that the material costs for sheet metal cuttings have been an average of four to six per cent above the framework agreement calculation for six months in a row. At the same time, the delivery performance of its main supplier falls from typically over 95 per cent to around 88 per cent.

- Separation of the variance into price effects (surcharges on a steel index basis) and quantity effects (more night shifts)
- Documented supplier discussions with binding countermeasures and interim deadlines
- Examination of alternative sourcing via a qualified second supplier for critical items
- Adjustment of the planning horizon and introduction of weekly early-warning reports for A-parts

Conclusion

Variance analysis turns key figures into decision-making knowledge. It shows not only that plan and actual diverge, but also why – and thus creates the basis for effective measures in procurement. Decisive factors are a clean definition of targets, a cleansed data basis and the consistent follow-up of derived measures. Those who evaluate variances systematically improve supply capability, cost position and supplier quality at the same time. Variance analysis therefore belongs in the mandatory repertoire of every professionally organised procurement controlling function.

Frequently asked questions

? What is variance analysis?

Variance analysis is the systematic comparison between planned and actual values, for example in terms of costs, quantities, deadlines or quality. It aims to identify the causes of differences and to derive suitable countermeasures. In procurement, it is a central instrument of procurement controlling.

? What types of variances are there?

A common distinction is made between price, quantity, delivery date and quality variances. In addition, structural and mix effects play a role, for example when the composition of the procurement volume changes. It is important to examine each type of variance separately so that causes are not conflated.

? How is a variance analysis carried out in procurement?

A four-step approach has proven effective in practice: define target values, capture actual data in a cleansed form, quantify variances and explain their causes, then derive and follow up on countermeasures. In addition, ABC analyses help to focus on the most important line items. Regular repetition ensures effectiveness monitoring.

? Which key figures does variance analysis use?

Typical key figures are the material price variance, delivery performance, the service level and target achievement rates under framework agreements. Quality indicators such as scrap rates and the results of complaint assessments are also included. The selection should be guided by the defined procurement objectives.

? What is the difference between a target-actual comparison and variance analysis?

The target-actual comparison merely identifies the difference. Variance analysis goes further by breaking down the difference, working out the causes and deriving recommendations for action. It is therefore the analytical and action-oriented part of the target-actual comparison.

? How often should a variance analysis be carried out?

Analyses are often carried out monthly or quarterly, and weekly or even daily for critical components or ongoing problems. The rhythm should be based on the significance of the variance and the speed of response the process allows. Analyses that are too infrequent waste valuable response time.

Find the right suppliers on Amplifa

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

amplifa-marketplace.ai