

UPDATED

TOP 25

TOP 25 DATA ANALYSIS EXAMPLES IN THE CONTEXT OF FINANCIAL STATEMENTS AUDIT

MAY 2023



TOP 25 DATA-ANALYSE

CONEY MINDS

INTRODUCTION

We have named a top 25 of relevant data analyzes that Coney Minds has applied in audit in the broader assurance sector over the past twenty years. In a next update, most likely in 2025, we will also share Machine Learning examples. These can be analyzes that the team can apply as part of application controls testing or substantive tests of detail around significant financial statement items or processes. There are also analyzes aimed at detecting fraud signals or revenue leakage. These are also analyzes that an internal audit or risk team can perform internally.

This list is not exhaustive, rather indicative of the analyzes available. Many of these analyzes are also already available in pre-built format and can be made available by Coney Minds to professionals working in (fellow) audit and risk teams.

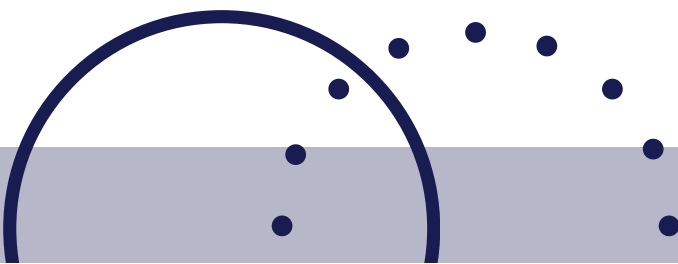


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1. ISA/ COS 240 AND VALIDATION ANALYSES

With the help of data analysis around journal entries, all striking entries are analyzed in one go. For example, analyze memo journal entries by employee, by period, by size, by character or by time. Map bookings that have been reversed or 'booked' in a previous period. It is also possible to look at the authorization of transactions; what type of transaction is authorized by whom and when.

With the ISA/COS240 scripts, every auditor, controller or financial analysis is available to understand all journal entries from a large number of angles and to implement the work steps related to fraud detection.



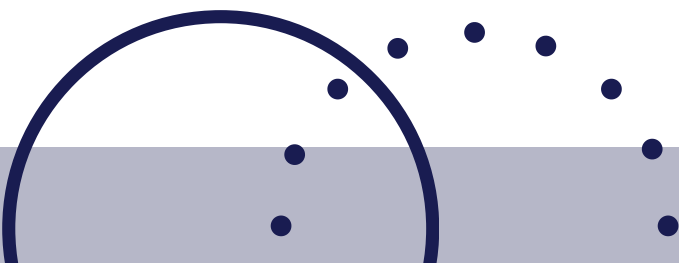


2. ORDER TO CASH

The Order-To-Cash process (O2C) is often standardized down to the last detail. Roles, tasks and limits (discounts, credit notes, returns) are recorded in authorization and workflow matrices and tables.

With process mining, the O2C process is tested with regard to the design and operation of internal control. Turnover, margin, stocks, accounts receivable and cash are the most important transaction items that are analyzed in this process. Part of this analysis is the relationship between the speed of debtor payments and the impact on cash flows. In addition, scripts have been developed to map out turnover and margins in detail from different angles. Consider, for example, sales and margin growth per customer and various trend analysis in the context of, for example, checking accuracy and prevented sales.

These analyzes support the translation between the company's strategy and the realization of objectives. In these analyses, relevant application controls are also tested as part of a systems-oriented approach or as a precondition for a data-oriented approach (see Audit Ebook). Think of credit notes that have been approved and processed with a value in euros that is above the programmed value (authorization table).



3. FLOOR ORDER-TO-CASH SALES DISCOUNTS

Discounts are fixed in discount tables. The internal control measures surrounding discount tables are often strict. In ERP systems, the tables are often linked to sales lines. Reperformance using data analysis offers the possibility to (integrally) test sales rules for the applied discounts and as such to determine whether the correct discount rules have been applied. Deviations have a signaling effect with regard to malfunctioning internal controls, failing application controls or incorrect mapping of sales lines and discount tables.

4. FLOOR ORDER-TO-CASH - 2C: LOGISTICS, THIRDPARTIES – ORDERS VERSUS INVOICING

In the online and offline retail/trade sector, the reconciliation analysis is relevant between shipment (e.g. based on data from an external transport company) from logistics/warehouse systems managed by third parties and the billing system. Think of combinations such as 'shipping' versus 'no invoicing' or 'stock write-off' versus 'no invoicing'. Returns are also part of this analysis. In practice, we see major differences in both the logistics and financial spectrum, which can also be indications of possible loss of turnover. These analyzes are very valuable from both audit and business analytics considerations.



5. PURCHASE- TO- PAY

Like the O2C process, the Purchase-To-Pay process (P2P) is often standardized down to the last detail. Here too, roles, tasks and limits (purchase discounts, maximum purchase prices, 'vendor data') are recorded in authorization and workflow matrices and tables.

With process mining, the P2P process is tested with regard to the design and operation of the internal control. Part of these tests are the internal approval and authorization of order deviations and the correct processing of 3-way matching (purchase order, goods receipt notification and invoice). The latter remains an important theme, despite advanced ERP environments. Even in advanced ERP environments, users have found elephant paths and controls may be circumvented.

Transactions in the P2P process are analyzed in detail with data analyses, which are already available to the market in prepared sets. Examples include further analysis of the purchasing process including orders after the invoice date, orders above internal authorization limits and payments to unauthorized suppliers.

Other themes that are affected vary from analyzes of stocks (negative stocks, stocks without cost price, slow and no-movers) to double payments and insight into compliance with internal vendor agreements (lead time payments, accounting for purchase discounts).

Of course, application controls are also tested as part of a system-oriented approach or as a precondition for a data-oriented approach (see Ebook). This includes purchase orders that have been approved by unauthorized employees. mapping' of sales lines and discount tables.



6. FLOOR PURCHASE-TO-PAY - PURCHASING

Detailed analyzes of accounts payable transactions provide valuable insight into the underlying 'quality' of purchasing process control. These analyzes are input for checking the completeness of purchasing obligations. In this context, the relationship is established between purchase volumes and conditions surrounding purchase discounts, versus discounts accounted for at the end of the financial year. These analyzes can say something about the completeness of purchase discount income at the end of the period (lower) or whether this income from purchase discounts is brought forward (higher).

7. IN-DEPTH P2P: SPEED OF PAYMENTS VERSUS CASH FLOWS

Although this is not directly relevant in relation to an item in the financial statements, we do find the analysis of the speed of payments relevant. Striking changes in the speed of payments can say something about the quality of the underlying control measures (such as 3-way matching and follow-up of back orders) or the efficiency of the design (bottlenecks) of the payment process. A decreasing speed in payments (possibly per division and/or operating company) can say something about (approaching) liquidity problems. In addition, the speed of payments also touches on the subject of liquidity and provides insight into its development in the future.



8. MONITORING SUSPENSE ACCOUNT BALANCES

The existence of suspense accounts and balances at the end of the financial year is already a signal for many auditors to raise the red flag. Suspense accounts are used to temporarily park workflow (back orders, payment differences) and then resolve them. In practice, suspense accounts fill up and the problems pile up. With a data script, an auditor periodically tests whether suspense accounts run at zero or which transactions cause any 'differences' on suspense accounts.

The balances are analyzed and visualized from different angles (character, origin, owner). These are often audit findings that need to be followed up. In addition, the results can be used to propose a correct solution.

9. RELATIONSHIP BETWEEN STRUCTURE OF FACILITIES AND UNDERLYING CAUSES

The provision is often an 'estimate item', but must be substantiated by facts from the past, ratios. Consider, for example, a warranty provision. By periodically comparing a complaint registration (e.g. per type of product) in an analysis against physical products that have been returned or have been repaired, experience figures can be mapped. These figures can be used in relation to checking the assumptions of, for example, a guarantee provision. Through the analysis of facts, estimates can be substantiated or tested for reasonableness.



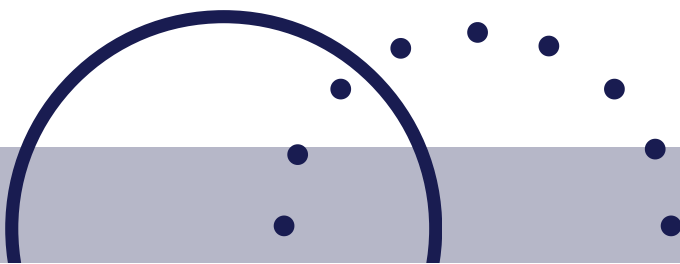
10. SALES TEAM PERFORMANCE

The sales team pipeline, often housed in tools such as Salesforce or other CRM systems, is a source of interesting data that can be used in the analysis of the sales process and the successes of the sales team. For example, average lead time and success rates of RFQs can be used in the analysis of the completeness or accuracy of sales bonuses. In addition, statuses in an order pipeline can be compared to revenue recognitions.

An example of this is the status “ready and delivered” in the CRM system versus “invoiced” in the financial administration. Strange deviations in lead time or success statuses around the end of the financial year can lead to further detailed checks. This gives substance to control steps around the boundary of revenue recognition.

11. CAPACITY ANALYSIS

Think of rental companies, hotels, transport and similar companies. This analysis involves linking rental transactions (reservations, capacity), usually in the logistics system, to bookings in the financial administration. The question here is whether all changes have led to a profit and which patterns can be distilled from the logistics systems (looking ahead). This includes trend and predictive analyzes of low versus high realized capacity compared to realized margins (low versus high) and the influence of seasonal patterns.

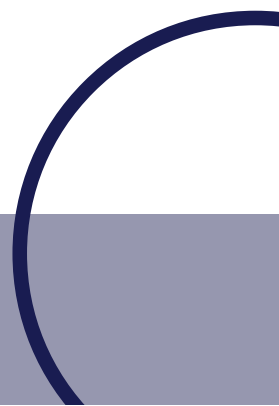


12. FLOOR PAYMENTS: 'PERSONNEL / BOARD OF DIRECTORS / DGA PAYMENTS'

An audit that does not necessarily detect errors in the annual accounts in the situation that bank transactions and balances have been correctly processed in the administration. However, detecting 'double payments' can easily demonstrate added value. These data scripts are already in the P2P process. An in-depth look at this is the analysis of payments to 'staff, Board of Management and DGA members'. Loans, advances and expense reports versus the quality of the internal control around payments and authorizations. In practice, this is a sensitive and interesting part to apply data analysis to. And practice shows, audit clients with 'ghost employees': they exist!

13. STOCK TURNOVER RATES

Inventory movements are relevant in the light of inventory valuation control, in particular with regard to the provision for obsolete inventories. With data analysis, turnover rates can be calculated at item level. At stock group level, through analyzes such as 'stratify' (spread, range) articles can be mapped with striking





14. VAT ANALYSIS.

Consider, for example, determining, based on the delivery address, which foreign deliveries have taken place and, based on invoice data and VAT codes, determining whether the correct VAT percentage has been applied. Another example of data analysis regarding VAT is to determine for each customer whether a logical VAT percentage is consistently applied. Using our scripts, we can also determine whether the VAT has been processed on the return in the correct period and whether a correct and complete return has been filed. For example: are bookings included in the costs where no VAT input has been registered?

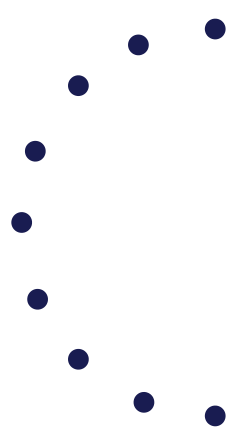
15. ANALYSIS OF SOCIAL MEDIA VERSUS CURRENT CONTRACTS.

Twitter, TikTok, Instagram and Facebook data can be used to map what companies or consumers say about services or products. Suppose your audit client distributes software in 20 countries. Based on analyzes of certain keywords ('keywords') surrounding the software, a heat map can be made with the countries in which the software is discussed. For example, it can perhaps be made clear that this also includes countries to which no software is distributed according to the contracts in the contract register... Ok, that chance is quite small, but heatmaps provide insight into the sales and distribution channels and insights strengthen the knowledge of the organization.



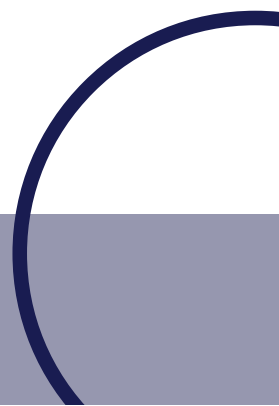
16. RESULT PER CUSTOMER

Your customers have customers too. Good thing, too! However, many (business) entrepreneurs have no idea what is earned per customer. Do you think this is not directly an analysis of an item in the annual accounts? What if you can use data analysis to identify that some relationships are structurally loss-making? What if you also link this to the debtor analysis? Loss-making customers who also have long terms in terms of paying the invoices... In any case, something to discuss.



17. BUDGET OVERRUNS

With data analysis it is perfectly possible to map (imminent) budget overruns, to predict or to calculate budget realization ratios and to share them with the customer. This is not only interesting from the point of view of the control of realization versus budget (correctness of costs), but this analysis can also be performed periodically, so that audit clients can be provided with new insights.



18. MANAGING LEDGER ACCOUNTS

When was the last time you determined that the sales ledger accounts are only controlled by entries from the linked sales systems? How do you know that credit notes are actually linked to return goods reports and have been correctly authorized in cases of leniency or reconciliation of disputes? Analysis of 'control' (booking/booking) of general ledger accounts not only provides insight into the actual operation of the process/journal process, but also says something about whether journal entries are controlled consistently.

The scripts are intended as validation analyzes as we call them, analyzes based on data analysis with the aim of establishing that transaction flows have been processed logically (and integrally) in the general ledger.



19. TESTING REAL PAYMENT TERMS AT INVOICE LEVEL. PURCHASING AND SALES

With the link between the purchase and sales transaction lines (including data fields) versus the actual bank expenditure and receipt lines, you have insight into the payment terms at transaction level. Link this to stratify and periodic analyzes and you and your customer will have insight into actual payment behavior and possible rising issues.

20. SEPARATION OF DUTIES AND AUTHORIZATION MATRIX

Who is not familiar with the expression 'cheese wedge', also known as 'cheese with holes'? This is a 100% analysis of transactions per cycle (purchasing, sales, HRM, etc.) in which it is determined WHO has carried out WHICH transaction and has it been carried out in accordance with the Separation of Functions and Authorization Matrix. In other words, is there a breach of segregation of duties, a breach of authorizations? If so, which transactions are involved and how many euros are involved?



21. CREDIT CARD STATEMENTS

In those situations where there are a lot of business expense reimbursements, the credit card spend analysis is a wonderful analysis around accuracy and legality of expense claims. With a relatively simple script, 100% of the declarations can be periodically analyzed based on internal guidelines. In addition, trend analyzes can be made per employee.

22. CASH FLOW ANALYTICS

The analysis of cash flows is a very interesting part of the spectrum of data analysis. To develop a data model in a valuable way, the variables (the elements that influence cash flows) must first be named. The challenge is to map out the right variables (transaction flows) and circumstances that ultimately result in, in a nutshell, future net cash flows. These ingredients vary by typology. Once this step has been taken, the time has come to make predictive analytics part of the assessment of liquidity or of the audit of a company as a whole. The latter could also include testing going concern assumptions.

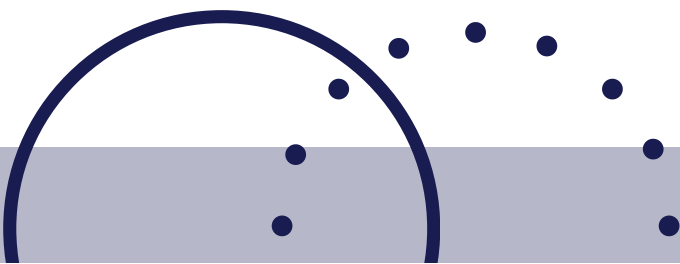


23. REVENUE LEAKAGE

Revenue leakage is the detection, recovery and prevention of loss of revenue. In practice, we see that many companies, despite ERP systems and numerous internal and external controls, struggle with the unnoticed 'leakage' of turnover.

With the help of our revenue leakage analyses, we look at a company from the idea that business processes are 'connected' to each other. This means, for example, that there are 'natural links' between purchases and sales (trade companies), purchases, production and sales (production companies) and hours, invoicing and remuneration (temporary employment agencies). During the revenue leakage projects, we rely on these relationships, among other things. In addition, we look at all relevant aspects that can disrupt these 'natural connections'.

Think of invoices that are paid twice, purchase discounts that do not end up in the books, credit invoices that are wrongly granted or goods and services delivered that are never invoiced. The lost turnover can easily amount to 1-5 percent of the net result.



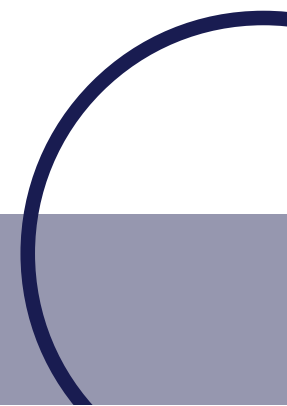
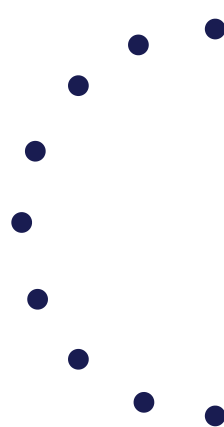


24. TOP CYCLE APPROACH – THE MONEY MOVEMENT

With revenue leakage, a large part of the cycles has already been completed. In practice there are of course numerous examples in which the money-goods movement can form the basis for valuable analyses. An analysis of the time movement is interesting in a typical time movement environment such as secondment, temporary employment and business services. The analysis of hours: 'Job-Time + Shop-Time = HRM-hours = Paid Hours' is also very relevant for production and other typologies where hours play a role. With data analysis it is possible to zoom in on the movement of hours per employee, (total) connections can be made with reservations of holidays (money) and hour analyzes can also play a role in the light of revenue accounting hours (think of service hours, helpdesk hours, call center hours).

25.

We are happy to leave the 25th analysis to you. We can imagine, for example, that you have questions about data analysis in the context of ESG Assurance or ESG Analytics. If you have any questions, please contact Coney Minds at info@coneyminds We are happy to help you.





Coney Minds

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NEED HELP WITH DATA ANALYSIS?

Coney Minds has been active for twenty years with data analysis in a broader assurance domain

We help entrepreneurs, managers and financials to set up an ongoing monitoring dashboard, with our data-driven approach we check the annual accounts based on data analysis and we also train anyone with an interest in data analysis.

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