MAKING ANALYTICS

FUNDAMENTAL

Reaching that ambitious goal is the vision of our group, which consists of the companies 
dab: Daten – Analysen & Beratung GmbH, dab: Software GmbH and dab: Mittelstand GmbH.

OUR MISSION STATEMENT
The essence of our business is the analysis of structured data, primarily – but not exclusively – from SAP\textsuperscript{®}. Our innovative software solutions for standardized data analytics plus highly professional services enable clients worldwide to simply access large quantities of data, and then change them automated, speedily, dependably and transparently into substantiated knowledge („Changing Data into Knowledge“). We thus create value added by enhancing data quality, flagging process improvements, making risks transparent or diminishing them, and producing a vital basis for decision-making.

OUR MERITS
Our innovations have already substantially shaped and advanced data extraction and data analytics. But we are not resting on our laurels because we are continuously bettering our solutions and expanding our expertise. Professional and personal integrity, candor, respect, reliability and flexibility are our keynotes, rounded off by purposeful teamwork, clear communication and the highest ethics and diligence in our handling of sensitive data.
WHO SHOULD READ THIS CATALOG?

Anyone whose company runs a SAP® system and needs to extract information from the (big) data it contains. Any executive officer or leader thinking about data quality, reports, audit, governance, risk and compliance (GRC).

WHAT IS IN THIS CATALOG?

We created this catalog to turn abstract data-analytics issues into specific, quantifiable goods and services which are offered in terms of services & software. Moreover, we explain the challenges specific to each subject, look at the inherent risks and explain our solution. The solutions in this catalogue are only an excerpt from our full analytic portfolio. If you need more information or a partner with a proven track record in data analytics based on SAP® data, feel free to contact us.

Martin Riedl, CEO

Stefan Wenig, CEO
SOLUTIONS BY BUSINESS PROCESS AREA

We offer analytic solutions for all SAP® business processes. The following selection focusses on the Purchase-to-Payment process (1–3) and the Order-to-Cash cycle (4–6), respectively.

01 VENDOR MASTER DATA (SAP® MM-MD)
Improve data quality & detect fraudulent patterns

02 PURCHASING (SAP® MM-PUR)
Identify business process detours & accidental or intentional overbillings

03 ACCOUNTS PAYABLE (SAP® FI-AP)
Recognize process risks, duplicate payments or One-Time-Accounts abuse

04 CUSTOMER MASTER DATA (SAP® SD-MD)
Prevent credit limit problems, improve data quality

05 SALES & DISTRIBUTION (SAP® SD)
Detect noticable amounts of free goods and returns

06 ACCOUNTS RECEIVABLES (SAP® FI-AR)
Discover overdue receivables, discount abuse & payment term changes
DID YOU FIND WHAT YOU WERE LOOKING FOR IN THE CATALOG?

You can use our solutions in two ways.

ALTERNATIVE 1: LICENSE OUR SOFTWARE SOLUTIONS

**DAB:EXPORTER**
is our solution for effective access to SAP® data, and presents these in formats suitable for analytics:
ACL™, GoBD/GDPdU, Microsoft SQL Server™ or as a CSV file.

**DAB:ANALYTICSUITE**
is our flexible answer to continuous controls monitoring & auditing (CCM/CA) and ad hoc analytics.
A broad-based portfolio of standard analytics for SAP® data automatically produces in-depth results.
Share them with your whole team or with other departments.

**ACL™ ANALYTICS, ANALYTICS EXCHANGE AND ACL™ GRC**
are the solutions from software house ACL Services Ltd, and the motor powering our dab:AnalyticSuite.
They offer extensive possibilities of data analytics and audit management (data-driven GRC).

ALTERNATIVE 2: OUR SOLUTION FOR YOU AS A SERVICE

**DAB:RAPIDRESULTS**
You want to profit from our solutions but do not have the resources needed? We extract and analyze your data for you, remotely or in situ, and hand over the results. We provide all the software products needed.
You have no licensing costs.
01 VENDOR MASTER DATA SAP® MM-MD

IMPROVE DATA QUALITY & DETECT FRAUDULENT PATTERNS
THE IMPORTANCE OF MASTER DATA
A problem that frequently occurs is the poor quality of master data. Data that should actually be unique appears in the system more than once. There can be various reasons for this: When a new order is created, there might not be a check to see if the supplier is already in the system. Or the spelling is wrong (Robson instead of Dobson), and the partner is entered twice although it is the same person or same company. When it comes to system integration or migration, large data inventories are often put together and duplication is the result.

FACING THE PROBLEM
Data volume has multiplied in recent years. Surveys indicate an average growth of 40% in businesses, and the Internet data load will have increased fourfold soon. If you do not tackle the problem of master data quality in your own business now, the resulting difficulties will grow exponentially.

WHAT DIFFICULTIES ARISE FROM POOR MASTER DATA?
The problems resulting from poor master data are numerous. Multiple master records can unintentionally result in double payments: An invoice is inadvertently paid both to the correct partner number and to the duplicate. Process runtimes are also stretched because it is increasingly difficult for a user to identify the right data among all the duplicates. When you think of the in-house analyses based on the (poor) data, it is time to apply the principle of Garbage In – Garbage Out. Analyses are only as good as the data on which they are based on.

HOW OUR DUPLICATION ANALYSIS HELPS
The strength of our analysis is that it combines different approaches. These range from highly selective analytic approaches (for instance identical bank details) through addresses and their different spelling (Street vs. Str.) to less selective analytic approaches like Levenshtein distance or phonetic similarities.

There are further aspects that may be of interest for you in this context:
Same bank details for different suppliers? Are they apparent suppliers?
Customer duplicates: Are there duplicates in the customer master records and can that affect a check of creditworthiness?
BANK DATA CHANGES

FOR WHICH SUPPLIERS DO BANK DATA CHANGE VERY OFTEN?

STARTING SITUATION
In many countries a bank transfer is the usual way of paying a supplier. It requires correct bank details to work properly. Changes to this data is fairly limited because of the effort involved (opening a new account, legitimation with the financial institution, money laundering aspects, effort involved in changing payment transactions to date). So if there are suppliers whose bank data changed frequently in the past, this is worth looking at more closely.

RISKS
Bank data determines where money is transferred to. Changing bank data means redirecting cash flow and possibly also the recipient. This may be done intentionally in cases of fraud or unintentionally through incorrect entries or interface problems.

STRENGTHS OF ANALYSIS
The strong point of this analysis is that not only the actual status or current bank data are analyzed but also the change log is looked upon. SAP® change tables are used to ensure this. In our analytic we use the information stored there and get the most out of this complex data structure. Data is also cleaned so that the analysis is able to identify different syntax and special characters (account number 000123 versus 123 versus 000-123).

RESULTS
The analytic aims to indicate for which suppliers there have been frequent alterations to bank details. Where were new bank accounts frequently opened? Where were bank accounts frequently closed? A further aspect is the period of validity: Are there cases where supplier bank accounts were only active for a very short period? Here it is of importance whether there were payment transactions during this time, for instance in the framework of the automatic payment run in SAP®.

There are further aspects that may be of interest for you in this context:
Same bank details for different suppliers: Are they apparent suppliers? Suppliers without bank contacts: If no bank details are held in the system, how can payments be made? In cash?
STARTING SITUATION
The aspect of “know your business partner” is becoming increasingly important. Almost regularly you hear of cases in which money was transferred to tax havens, or dubious transactions were conducted through business partners based in high-risk countries. Aspects like embargo lists are now also important to satisfy all legal requirements.

OUR SOLUTION
We enable a comparison of virtually any lists, e.g. tax havens, business partners on embargo lists, HADDEX or CPI (corruption perception index information), with business partner data. This can be done at the level of master data but also based on transactions. Any hits are listed in the result, and are easily tracked by the partner or document number.

THE SITUATION
As part of master data it may be adjusted in the system that outgoing payments are not made to the supplier with whom the original business was undertaken but to an “alternative payee”. This redirection, depending on procedure, can be specified in the master record but also for individual transactions. The reasons may be trust procedures for instance.

RISK AND ANALYSIS RESULT
The risk is the loss of transparency. To whom payment was actually made, and that this method leads to abuse, like using the „this is the boss“ trick in an attempt to redirect payments to fraudsters. Our analysis lists suppliers for whom alternative payees are or were installed, and the manner, i.e. whether on master data or transaction level.

VENDORS IN CRITICAL COUNTRIES
BUSINESS PARTNERS WITH SEAT OR BANK ACCOUNT IN HIGH-RISK COUNTRY AND/OR TAX HAVEN.

ALTERNATIVE PAYEES
CAN OUTGOING PAYMENTS BE REDIRECTED?

Are there trading partners in embargo countries or tax havens?

Is there transparency about who actually received payments?
02 PURCHASING SAP® MM-PUR

IDENTIFY BUSINESS PROCESS DETOURS & ACCIDENTAL OR INTENTIONAL OVERBILLINGS
STARTING SITUATION
When a purchase order is entered in the system, the order value and purchase order quantity represent the „debit“ that was also authorized. As a basic rule the subsequent quantity and value flows as a sum should correspond to the purchase order values. If ten laptops priced € 1,000 each are ordered from a supplier for example, goods receipts of ten pieces and an invoice value of € 10,000 are expected. If the invoice value deviates upwards, the supplier has billed too much. If it deviates downwards, the goods may have become cheaper in the meantime, or too few or wrong goods were delivered.

POSSIBLE FINDINGS AND FOLLOW-UPS
Exceeding the order value could point to tolerance limits that were set wrongly or too freely. Other possibilities are incorrect postings, potential double entries or incorrect entries. Where there are accumulations for individual business partners it should be considered whether the irregularities are systematic and deliberate.

STRENGTH OF ANALYSIS
Often target/actual comparisons are not as trivial as they may seem when first looking at them. To determine the actual accumulated invoice value, the entire purchase order history is summed up and invoices are balanced against any credits. A conversion is then made to a consistent reference currency because the currency of the invoice may differ from that of the order. The analytic details the different SAP® activities such as goods receipt, invoice and credit receipt plus subsequent debits.

If this analysis is of interest, the following analyses may also be relevant:
Tolerance limits: This analysis lists purchase orders with high or unlimited over-delivery tolerances. Double payments: This identifies invoices paid twice or even multiple times.
TOLERANCE LIMITS IN PURCHASE ORDERS

THE ANALYSIS ILLUSTRATES THE USE OF TOLERANCE LIMITS IN THE ORDERING PROCEDURES.

STARTING SITUATION

Tolerances can be applied in purchasing at the item level of an order. It is possible to set overdelivery and underdelivery tolerances for goods received, as well as over and under tolerances for invoice issue. This may often be necessary, in the case of raw materials for instance, which tend to be inaccurate in terms of volume or weight. Tolerances can be set as a percentage (say 10% overdelivery) or as „unlimited”, which is appropriately indicated in the purchase order item.

USE OF ANALYSIS

There is a risk in setting the unlimited overdelivery or billing over flag. The impression could be created that you had approved a purchase order worth € 10,000; but in fact a larger amount is delivered and/or charged. Our analysis lists purchase orders with an unlimited tolerance range but also concrete tolerances in percent for a purchase order item.

PURCHASE PROCESS CIRCUMVENTIONS

IN WHAT CASES DOES THE TIME SEQUENCE INDICATE THAT THE ORDERING PROCESS WAS NOT FOLLOWED?

WHY ARE PURCHASE ORDERS IMPORTANT?

Orders are of importance in a business. Only through a purchase order created in the system (in advance!) the procedure – ordered material, price, order value and supplier – can be approved. In addition to advance authorization, it is subsequently possible to check whether the goods and invoice match what was originally stated in the purchase order.

ANALYSIS OF PROCESS CIRCUMVENTION

In actual practice you often come across a scenario like the following: There is a purchase order in the system, including invoice receipt and goods receipt. What looks correct is not when you take a closer look: You find that the invoice date is earlier than the date of creating the purchase order. So the order was possibly agreed upon, by phone, and the purchase order was not put into the system until after completion of the business transaction. A check of authorization, comparison of quantity and value at the system end were thus not possible at the time of ordering. Our analysis lists activities or transactions in a time sequence showing that the process was circumvent.
STARTING SITUATION
Unlike in outline or scheduling agreements, standard purchase orders are usually for procurement transactions within a relatively tight time frame. In other words, after the order there will be delivery of the goods or provision of the service followed by invoicing. Even if these procedures take the form of partial deliveries or partial invoices, the order will usually be completed at least within a few months.

ANALYTICS LOGIC AND RISK
Analytics determine the time between all goods and invoice receipts. This difference is calculated, and orders are listed where there is a noticeably long time lag between the individual elements. A possible risk is that further operations are booked to ready handled orders of the same content with a remaining budget that may not be subject to an approval process.

RESULT OF ANALYSIS
Analysis lists purchase order items where, as a result of price or quantity changes, changes in order value were often noted. The number of changes and the absolute effect on order value are calculated and sorted in descending order. In this way transactions can be checked, for instance whether changes of order value were authorized internally in the event of rising costs.
ACCOUNTS PAYABLE SAP® FI-AP

Recognize process risks, duplicate payments or one-time-accounts abuse
CPD 1 – BASIC ANALYSIS

THE SUBJECT IS CPD (ONE-TIME ACCOUNTS)

HOW ARE CPD SUPPLIERS USED IN THE SYSTEM?

STARTING SITUATION
CpD accounts (aka „summary accounts“ or „accounts for one-time suppliers“) are generally only used for one-time business relationships. A classic example is the reimbursement of travelling expenses for an applicant „Toni Test“. Mr Test submits a € 4.90 train ticket to have it reimbursed. Instead of creating a vendor master record, the invoice is entered under the summary account „Vendors L–Z“ because it is not to be expected that this vendor will be required again.

RISK
In the case of payable accounts, critical data such as details of a bank account are not held permanently in a separate master data record but are entered manually for each posting. CpD invoices and payments consequently lack transparency and present a considerable risk for possible incorrect entries. Because of the associated and considerable risks, CpD accounts should only be used in exceptional and defined cases or for very small amounts.

BENEFITS OF ANALYSIS
Basic analysis lists all CpD transactions in accounts payable. Exceptionally high, individual cases can be identified immediately. An important feature of basic CpD analysis is that not only classic CpD supplier accounts are analysed but also alternative payees in document.

UNIQUE SELLING POINT
In addition to the classic use of CpD (One-Time Accounts) vendors, SAP® systems offer a functionality called „alternative payee“ in document. Vendors with this feature are initially treated as a normal vendor, e.g. using bank data for payments that are held in the master record for this partner. But within the document it is possible, if needed, to alter the payee and, together with this, the bank data. Based on this, the usage of such creditors must be seen as equally critical to using conventional CpD (one-time supplier) creditors.

We offer two more complex analytic solutions based on One-Time Accounts:
CpD 2 – Recurring Suppliers: Is the same supplier repeatedly posted as CpD?
CpD 3 – Circumvention of Master Data: Are postings done to an One-Time Account instead of using an existing personal master record?
CPD 2 – RECURRING SUPPLIERS

THIS ANALYSIS IS AN EXTENSION TO BASIC CPD (ONE-TIME ACCOUNT) ANALYSIS AND DETERMINES RECURRING SUPPLIERS.

RISK
As explained in the case of basic CpD analysis, CpD accounts are intended for one-time transactions, e.g. to reimburse travelling expenses when someone is interviewed for a job. It is however possible that invoices for the same supplier are posted not just once but several times under CpD, and with large amounts.

BENEFIT OF ANALYSIS
Taking the automatic SAP® payment run, outgoing payments based on different criteria (name, address, bank data) are determined for recurring suppliers for which actually a master record should be created. For this purpose bank and address data are cleaned so that hits are also shown that are not possible by conventional analysis.

CPD 3 – CIRCUMVENTION OF MASTER DATA

THIS ANALYSIS IS AN EXTENSION TO THE BASIC CPD (ONE-TIME SUPPLIER) ANALYSIS AND DETERMINES CIRCUMVENTION OF MASTER DATA.

POTENTIAL RISKS
If a master record with bank data A already exists for a supplier, and you wish to use new bank data without going through the normal change process, the invoice could simply be posted with alternative bank data under „CpD L–Z“ instead of the existing master record. Another scenario is that a master record exists for a supplier „Toni Test“ but that it is blocked (poor quality, fraudulent invoice issue). By posting an invoice under CpD the blocked master data record can be circumvented.

BENEFIT OF ANALYSIS
Analysis is performed of whether payments were made to persons or companies under CpD accounts although a master record also existed in the system at the time of payment. For this purpose bank and address data are cleaned so that hits are also shown that are not possible by conventional analysis.
DOUBLE PAYMENTS TO SUPPLIERS
ARE INVOICES PAID TWICE OR EVEN MORE OFTEN?

HOW DOUBLE PAYMENTS CAN COME ABOUT
„Double payments don’t happen because an internal control system catches them first“ – that assumption is unfortunately wrong. The reasons for a double or multiple payment are diverse. Actually in most cases it is a matter of the same invoice being posted more than once. It is possible that both an invoice and, erroneously, a later reminder of payment are entered in the system. Or the invoice is first posted under the normal supplier and later under a CpD (One-Time) account – or simply under a master record duplicate that is in the system by accident.

ONBOARD TOOLS FALL SHORT
The effectiveness of SAP onboarding tools rely on the precondition that the double payment indicator flag is set. But very often in actual practice, whether wittingly or unwittingly, this is not the case. Moreover, onboarding tools are not able to cover all scenarios: In the standard they are limited to an exact comparison of characters, meaning that they depend on an exactly identical entry of reference numbers. They no longer cover differences in exchange rates, cent deviations or payments to master record duplicates. The strength of our analysis is that it covers all issues mentioned above.

STRENGTHS OF ANALYSIS
Of course analysis also finds double payments to master record duplicates or CpD (one-time) suppliers. Credit memos already posted are offset, and analyses crossing company code can be performed at any time. Sorting of the hit list can be influenced by weighting a variety of factors. Those criteria that, as experience shows, make the identification of a duplicate payment more likely, can be weighted higher than others. By applying white lists it is possible to exclude certain customers entirely from the analysis.

FOR AUDIT OR BUSINESS
Once Internal Audit has identified control weaknesses which led to duplicate payments, this task can be handed over to the accounting department. It is an ideal analysis to be set up as continuous control, e.g. in a continuous controls monitoring environment to be performed automatically and regularly.

The following analyses may also be of interest in this context:
Double credits to customers: Are credit memos & bonuses accidentally paid more than once?
Master record duplicates of suppliers: Multiple master records exaggerate the problem of double payments.
STARTING SITUATION
Purchase orders are of central importance in the procurement process. Approval of a transaction in terms of quantity ordered, price, order value and supplier can only be issued through a purchase order created in the system. In addition to authorization in advance, order value and ordered quantity represent the authorized target status. Generally it will be expected that the sum of the following quantity and value flows corresponds to the order values. If you look at goods received and invoice receipt analogously to this as actual status, they can be compared with the target value in the purchase order.

RISK
In the absence of a purchase order there is no system-based authorization of the transaction. Nor is the target status defined, so there is no possibility of automated target/actual comparison of goods received and invoice receipt. Additionally there is no possibility of initial G/L account assessment, which exists in the standard process upon ordering and is extended through to financial accounting. Susceptibility to error therefore increases.

STRENGTHS OF ANALYSIS
High hit rate: It determines the purchase order reference of an invoice, or the absence of this reference, by means of a three-step logic, developed to match the data structure of SAP®. The procedure allows higher hit rates than conventional approaches. Few false positives: The result also includes the cost elements at G/L account level. This makes it possible to concentrate on transactions that according to the directive require a purchase order, and to exclude transactions for which ordering is not compulsory.

RESULTS
The result is a list of all invoices not referred to a system-based purchase order. Suppliers are also shown condensed so that it is often obvious at a first glance whether or not a transaction should be investigated further. The analysis enables the use of a white list of suppliers who are to be exempted from analysis (e.g. internal suppliers, government agencies).

Matching the subject of analyzing invoices without a purchase order reference are the following analyses:
Manual payments: Invoices w/o reference to a purchase order are often paid manually. CpD: In the absence of a purchase order, invoices are often booked to One-Time-Accounts.
CANCELLED DOCUMENTS

CANCELLED DOCUMENTS IS NOT UNCOMMON. THE QUESTION IS WHETHER THERE ARE ACCUMULATIONS THAT SHOULD BE LOOKED INTO.

WHY DOCUMENTS ARE CANCELLED
In book-keeping it is prohibited to erase, i.e. false entries cannot simply be deleted, for reasons of traceability they must be cancelled. An offsetting entry is made that cancels the original.

REASONS TO BE INTERESTED
Cancellations are part of everyday business. But for various reasons it is important to realize whether there are accumulations or patterns: Where cancelled invoices are concerned there are often double payments because transactions become more complex and less transparent. There may also be suppliers who intentionally attempt to submit inflated invoices or fake invoices that are then cancelled as factually wrong when discovered by accounting. A third situation may be that interfaces are wrongly or unreliably configured so that invoices generated automatically often have to be corrected by a cancellation. Process runtimes become longer and the cost of a single transaction increases.

OPEN VENDOR ITEMS

THE AGE STRUCTURE OF THE OPEN ITEMS OF ACCOUNTS PAYABLE IS DETERMINED, DIFFERENTIATED BY TYPE OF TRANSACTION.

OPEN SUPPLIER ITEMS – OFTEN UNDERESTIMATED
The term open items is very general, in particular, this includes non-cleared transactions of very different kinds such as claims, payables, rebookings, incoming or outgoing payments. The open items of suppliers are often neglected somewhat in the framework of analysis: Overdue payables are seldom focused upon because they are already contained in the costs, and payment is still only relevant to cash flow. But it should not be forgotten that open items may also include credit notes from vendors. Examples are: detected double payments, bonuses and reimbursements, credit memos for returns or poor quality.

USE OF ANALYSIS
Analysis determines the open items – possibly overdue – as of a certain key date. You not only have an overview of the age structure but also see the single items that are longest overdue, and grouped by supplier. Since not only payables but also receivables or payment transactions are among the items not cleared, analysis naturally differentiates between these categories.
04 CUSTOMER MASTER
DATA SAP® SD-MD

PREVENT CREDIT LIMIT PROBLEMS &
IMPROVE DATA QUALITY
CREDIT LIMIT CHANGES

THIS ANALYSIS DETECTS CHANGES OF CUSTOMER CREDIT LIMITS WHICH ARE DONE IN HIGH FREQUENCY.

STARTING SITUATION
A credit limit for a customer is defined with reference to assessment of their creditworthiness. This can be performed automatically or manually. The result of setting a credit limit in SAP® is that — depending on customizing — if this is exceeded, no further order is created or an existing order can no longer be delivered.

RISKS
At times when the economy of whole regions is unstable, more attention must be paid to solid credit management. Circumventing the controls of a system presents a risk. Increasing a credit limit does not necessarily mean an improvement in creditworthiness. If a credit limit is increased manually and possibly without examining creditworthiness, this may subsequently lead to loss of receivables. A further aspect is that examining credit limits is a matter with a certain degree of complexity in SAP®. Unintentional changes, as part of automation for instance, can also present a risk that this analysis is able to recognize.

RESULTS
The number and level of credit limit changes per customer credit account are listed. Not only the level of individual changes is considered but also the absolute change over the entire period observed. This is interesting where there is a large number of changes.

FINDINGS
From the results of this analysis you can determine both uncommon, one-time increases and regular, short-term limit increases.

Further analyses that can be of considerable interest in this context:
Blocking by credit management: Which customers are or were blocked by credit management?
Absence of risk categories: For which customers is no inspection of credit limit possible because risk categories are absent?
THE BUSINESS WITH MASTER DATA
A frequent problem in companies is the poor quality of master data. Data that should actually be unique appear in the system more than once. There can be various reasons for this: When a new order is created, there might not be a check to see if the customer is already in the system. Or the spelling is wrong (Robson instead of Dobson), and the customer is entered twice although it is the same person or same company. When it comes to system integration or migration too, large data inventories are often put together and produce duplication.

FACING THE PROBLEM
The volume of data has increased in recent years. Surveys indicate average growth of 40% in businesses, and the Internet data load will have increased fourfold soon. If you do not tackle the problem of data quality in your own business now already, the resulting difficulties will grow analogously.

WHAT DIFFICULTIES ARISE FROM POOR MASTER DATA?
The problems created by poor master data are numerous. Multiple master records can unintentionally result in double payments: A credit memo is inadvertently paid both to the correct partner number and to the duplicate. Process runtimes are also stretched because it is increasingly difficult for an employee to identify the right data among all the duplicates. When you think of in-house analyses based on (poor) data, it is time to apply a principle of Garbage In – Garbage Out. Analyses are only as good as the data on which they set up.

SPECIALY IN SALES – CAREFUL WHEN SETTING CREDIT LIMITS
Credit limits are an aspect of considerable importance in sales & distribution. Master record duplicates can cause problems here too: A credit limit could be issued a number of times, and then slumbers, also duplicated among the different partner numbers. If it is accidentally used twice for instance, that can lead to financial losses.

HOW OUR DUPLICATION ANALYSIS HELPS
Our solution combines different approaches. These range from highly selective analytic approaches (such as identical bank data) through addresses, where different spellings (Street vs. Str.) are considered, to less selective analytic approaches like the Levenshtein distance or phonetic similarities.

There are further aspects that may be of interest for you in this context:
Credit limit changes: For which customers does the credit limit frequently change? Supplier duplicates: Are there duplicates among suppliers and can that result in double payments?
05

SALES & DISTRIBUTION

SAP® SD-MD

DETECT NOTICABLE AMOUNTS OF FREE GOODS AND RETURNS
**FREE GOODS**

**STARTING SITUATION**
For material or goods added to customer orders without any direct financial return there are many possible, valid reasons: Show exhibits, rebates in kind, bonus agreements, samples, free replacement deliveries or special sales campaigns. From an analytical viewpoint it should be checked what the goods are, for which customers these free goods appear, what the goods are worth, and where there are any accumulations.

**PROFITABILITY AT RISK**
From a purely business viewpoint it is of interest to determine the equivalent value of such free goods. In which cases do free goods lead to a situation where single orders or whole business relationships are no longer profitable? Are rebates in kind and bonuses correctly allocated/awarded?

**COMPLIANCE AT RISK**
From a compliance viewpoint, free goods should be looked at more closely. Are there uncommon accumulations of such orders and order items without a financial return? Are the free goods delivered to private persons? Are samples consigned in quantities larger than necessary? Are products made available to sales partners as show exhibits then returned properly?

**BENEFITS OF ANALYSIS**
Order items are listed where the net value is zero. To determine the actual equivalent value of free goods, the SAP® goods clearing value (sometimes also referred to as cost of goods sold or simply costs) is used. In addition to determining the pure number of free items per business partner it is consequently also possible to estimate accumulations or total value as a function of time.

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**The following analyses could be of interest in the field of free goods analysis:**

- **Dummy prices:** Extremely low prices can also be of interest in this context. Goods value: This determines deviations from the average price of a material in orders.
RETURNS

DETERMINATION OF NUMBER, CUSTOMER, VALUE AND REASON FOR RETURNS.

BACKGROUND KNOWLEDGE
Returns by customers are a daily aspect in sales. The reasons can differ – the wrong delivery, poor quality, guarantee aspects and a variety of other causes. Sometimes sales partners are loaned show exhibits that have to be returned later. Active recall is another possibility if a customer fails to fulfill their payment obligations. A return must be entered in the system to map the corresponding flows of quantity and value (e.g. increase of inventory, issue of a credit memo). At the same time the reason for the return is entered in the system, which may trigger various follow-up processes: Cases of a guarantee can be settled differently to the return of equipment loaned for an exhibition.

RESULT 1—DETAILS
The individual returns are sorted in descending order of the value of the goods and listed in detail. This enables tracing of the individual operations.

RESULT 2—CONSOLIDATION BY MATERIAL
In addition to the details the individual transactions are accumulated by material. In this way you can determine whether and where a quality problem exists.

RESULT 3—REASONS FOR THE RETURN
For a number of return procedures it is compulsory to enter a reason in the system. The single transactions are then condensed so that the most frequent reasons for a return are immediately visible and appropriate measures may possibly be taken.

RISK OF BOGUS TURNOVER
A less frequent reason for unusually high returns can be the artificial boosting of turnover and its subsequent correction. If a certain level of turnover is coupled with bonus payments, this could be reached by a large volume of orders at the end of the business year and the bonus thus be paid out. The returning of goods at the start of the following business year might then be viewed as very critically.

Topics matching the analysis of returns:
Credit memos: Analysis of credit memos to customers, also in relation to turnover. Free goods: The analysis traces free order items. If they are show exhibits, they should also appear as returns.
DISCOVER OVERDUE RECEIVABLES, DISCOUNT ABUSE & PAYMENT TERM CHANGES
DOUBLE CREDIT MEMOS TO CUSTOMERS
ARE CREDIT MEMOS ACCIDENTALLY PAID TWICE OR EVEN MORE TIMES?

BONUSES AND CREDITS...
Credit memos and bonus payments to customers are the order of the day in sales. There can be a variety of reasons for this: A customer may be awarded a credit memo because of a complaint or returned goods. Bonuses can be paid out as a result of the annual sales that a customer books, possibly on a bonus/turnover scale.

...ARE OFTEN COMPLEX
Correct calculation of the amount of a credit memo can be difficult enough – example: 10% on all non-rebate items, excluding freight costs and in consideration of a drawn cash discount. In other cases there are complicated arrangements and procedures for payment: Is the annual bonus paid to a syndicate although the contracts and orders were produced by its individual members? In many a case the bonus has to be split for different recipients, possibly through different channels and in different countries.

RESULTS OF ANALYSIS
Analysis lists credits possibly paid to customers twice or more times by financial accounting. Sorting is a function of how big the amount is, and which or how many different criteria point to an inadvertent double booking.

MORE HITS THROUGH CLEVER ALGORITHMS
The strength of our analysis is that it combines different approaches. These range from highly selective analytic approaches through to the cleaning of reference and text fields. Hits are thus scored that are not possible with SAP® onboard tools in this form.

ADJUSTABLE SET OF RESULTS
Sorting of the hit list can be influenced in how various factors are weighted. Those criteria that, as experience shows, make a double credit memo more likely, can be weighted higher than others. By applying white lists it is possible to exclude certain customers or groups of customers entirely.

This topic is related to returns analysis:
Credits: Analysis of credits awarded customers, also in relation to their turnover. Free goods: Analysis determines free order items. If they are show exhibits, they should also register as returns.
CHANGE OF BASELINE DATE FOR PAYMENT

This report discovers manual adjustments of the baseline date which affects the final due date.

PURPOSE
The baseline date for payment in SAP® is the date taken as the starting basis to calculate the due date. A term of payment defines within what time a receivable or payable is due, maybe with the possibility of a cash discount deduction. Payment target days – often multilevel – are added to the baseline date for payment to determine dates due.

PROBLEM
The baseline date for payment can subsequently be altered, directly or indirectly (by the term of payment). This influences the due date of the receivable. If the payment period is 30 days, and the baseline date is shifted to one month later, the payment period is artificially extended.

RESULTS
You learn which customer documents are affected, how often changes have occurred, what the absolute effect of all adjustments is on the due date, and the value of receivables and payables.

LATE PAYMENTS
This analysis identifies customers who are paying constantly too late.

STARTING SITUATION
It is important for cash flow – especially in the case of receivables – that these will be settled (paid) within set periods.

STRENGTH OF ANALYSIS
This analysis is complementary to the analysis of open items. Whereas the latter determines receivables – possibly overdue – for a certain key date, the late payments analysis shows you which documents were settled after the payment period expired, by how many days, and whether there are samples with certain business partners or customers who regularly settle their bills late.
CASH DISCOUNT ABUSE
IT IS DETERMINED IN WHICH CASES CUSTOMERS HAVE DEDUCTED AN UNJUSTIFIED CASH DISCOUNT, AND HOW THE FIGURES ACCUMULATE.

CASH DISCOUNT AS PART OF THE PAYMENT TERMS
Cash discount is an effective means of optimizing cash flow. Percentage rewards (x % deduction for payment within y days) are meant to encourage a customer to pay as early as possible. Then they only remit the gross invoice sum reduced by the discount rate.

CASH DISCOUNT LOSSES THROUGH MISUSE AND ERROR
A customer could deduct a cash discount although it is not allowed for in the terms of payment. Sometimes a higher percentage is deducted than agreed. Or the customer pays later than the agreed date but still makes a cash discount. Sometimes there are even cases where dunned invoices are then paid but still with the cash discount.

RESULTS OF ANALYSIS
Analysis covers all the aspects mentioned (too much discount deducted, paid too late and discount still deducted). It determines the figures for the individual customer so that you can estimate whether the reason is an error, intention or a structural problem. In this last case, given the appropriate volume of invoices, the loss for just one customer may amount to tens of thousands.

OPEN ITEMS
THE AGE STRUCTURE OF THE OPEN ITEMS OF ACCOUNTS RECEIVABLE IS DETERMINED AND DIFFERENTIATED BY TYPE OF TRANSACTION.

STARTING SITUATION
The term open items is very general. What are meant are non-cleared transactions of very different kinds such as outgoing invoices, payables, rebookings, incoming or outgoing payments. Especially in the case of receivables it is important for cash flow that these should be settled (paid) within the set period.

USE
Analysis determines the open items – possibly overdue – as of a certain key date. You not only have an overview of the age structure but also see the single items that are longest overdue, and also grouped by customer. Since not only receivables but also payables or payment transactions are among the items not cleared, analysis naturally differentiates between these categories. So you are given a discriminating overview plus detailed information.
ANALYSIS
OF STRUCTURED DATA

Our business focus is the analysis of structured data, especially – but not exclusively – from SAP®. Our innovative software solutions for standard data analytics plus highly professional services enable customers worldwide to simply access big data and convert them, automatically, speedily and surely, into solid and well-founded knowledge.

LICENSING
OF DATA ANALYTICS SOFTWARE

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DATA ANALYTICS
IN GERMAN SMB

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