



Integrated Business Processes with SAP ERP

Script 9: Management Accounting in SAP ERP

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1 Management Accounting in SAP ERP

This teaching unit aims at giving you an understanding of Management Accounting in the SAP ERP system.

Educational objectives in this unit:

After this teaching unit, you will be able to:

- explain the differences between Management Accounting and Financial Accounting
- identify the organizational units that are relevant to Management Accounting
- explain the functions of the main components in Management Accounting
- describe the posting logic in Management Accounting
- explain Cost Center Accounting
- explain Profit Center Accounting
- explain Profitability Analysis
- explain Product Cost Accounting

Scenario for the Case Study

In the practical application of this unit, you will focus on Cost Center Accounting. You will create own cost centers, carry out planning on these cost centers and subsequently, record actual costs.

In the internal order section, you will create an internal order and use it as a controlling object in commitment management and for activities of your cost centers. Subsequently, you will run profit center reports, market reports and profitability segment reports.

In product costing, you will create a new work center and blend it in your work center for the production of the Speedstarlett. Based on this, you will perform a new product cost calculation.

The following figure visualizes the entire process that you will carry out independently by using the SAP ERP system in the practical application chapters of this unit. The color-coding shows that there are some integration points with other SAP components that you are already familiar with.

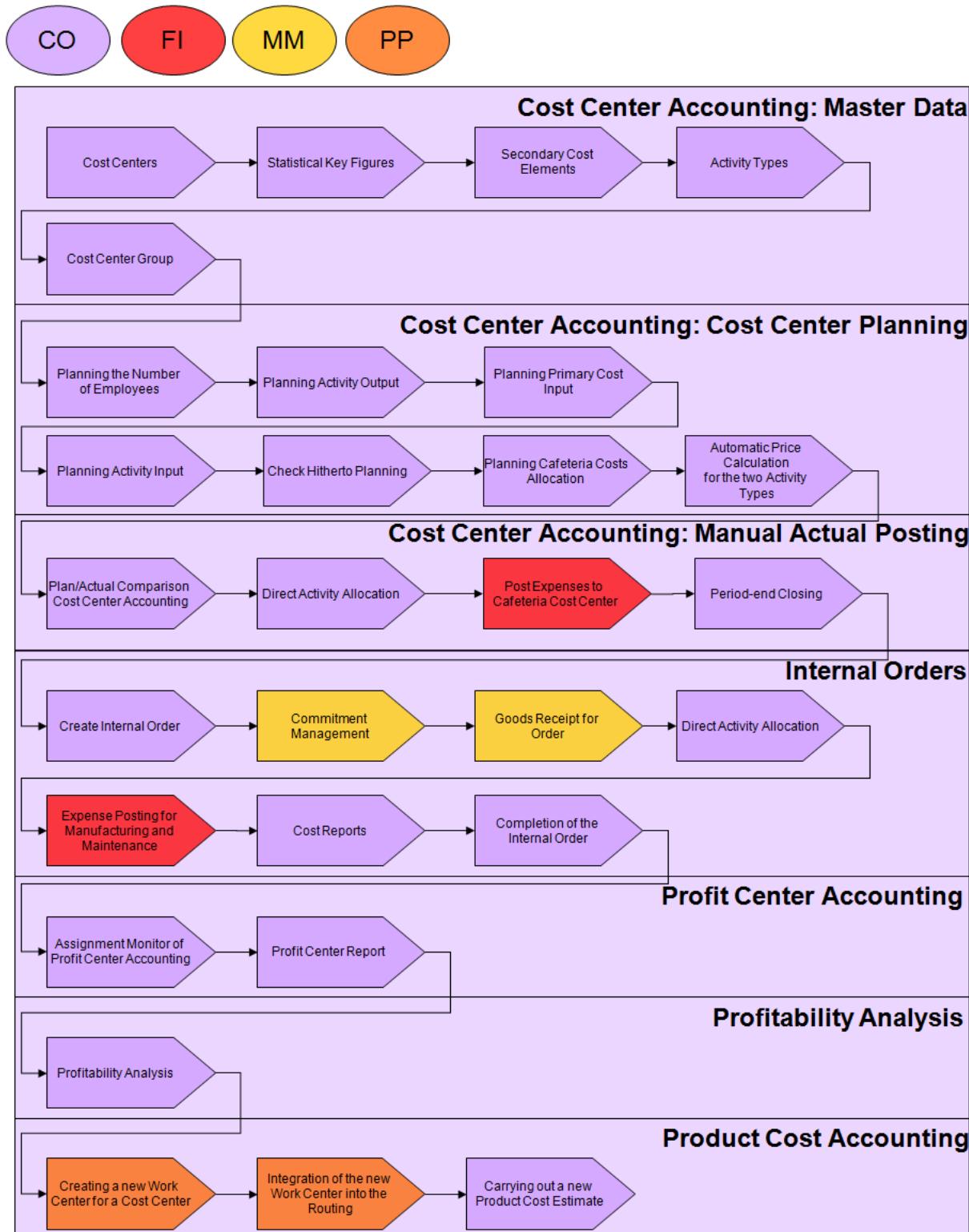


Figure 1: Process Overview: Management Accounting

2 Overview of Management Accounting

This section gives you an overview of the components of Management Accounting and its dissociation from Financial Accounting. Furthermore, the organizational levels relevant to Management Accounting are described.

2.1 Theory: Overview of Management Accounting (SAP CO)



Theory

Controlling provides you with information for management decision-making. It facilitates coordination, monitoring and optimization of all processes in an organization. This involves recording both the consumption of production factors and the services provided by an organization. As well as documenting actual events, the main task of controlling is planning. You can determine variances by comparing actual data with plan data. These variance calculations enable you to control business flows. Income statements such as contribution margin accounting are used to control the cost efficiency of individual areas of an organization as well as the entire organization.

2.1.1 Comparison of Financial Accounting and Management Accounting

Management Accounting in SAP ERP consist of all functions required for effective controlling of expenses and revenues. It covers all aspects of management controlling and provides numerous tools for compiling information for the management.

External reporting requires financial reports such as balance sheets and P&L statements, which are created in **Financial Accounting**. External reporting requirements are determined by general accounting standards such as GAAP (Generally Accepted Accounting Principles) or IAS (International Accounting Standard), similar to legal requirements that are set by relevant financial authorities.



Figure 2: Comparison of Financial Accounting and Management Accounting

2.1.2 Architecture of Management Accounting

Management Accounting consists of several components:

- Overhead Cost Controlling (CO-OM)
 - o Cost Center Accounting (CO-OM-CCA)
 - o Cost Element Accounting (CO-OM-CEL)
 - o Activity Based Costing (CO-OM-ABC)
 - o Internal Orders (CO-OM-OPA)
- Product Cost Controlling (CO-PC)
- Profitability Analysis (CO-PA)
- (Profit Center Accounting (EC-PCA)): Note that this component is part of Enterprise Controlling (SAP EC) but is highly integrated with SAP CO.

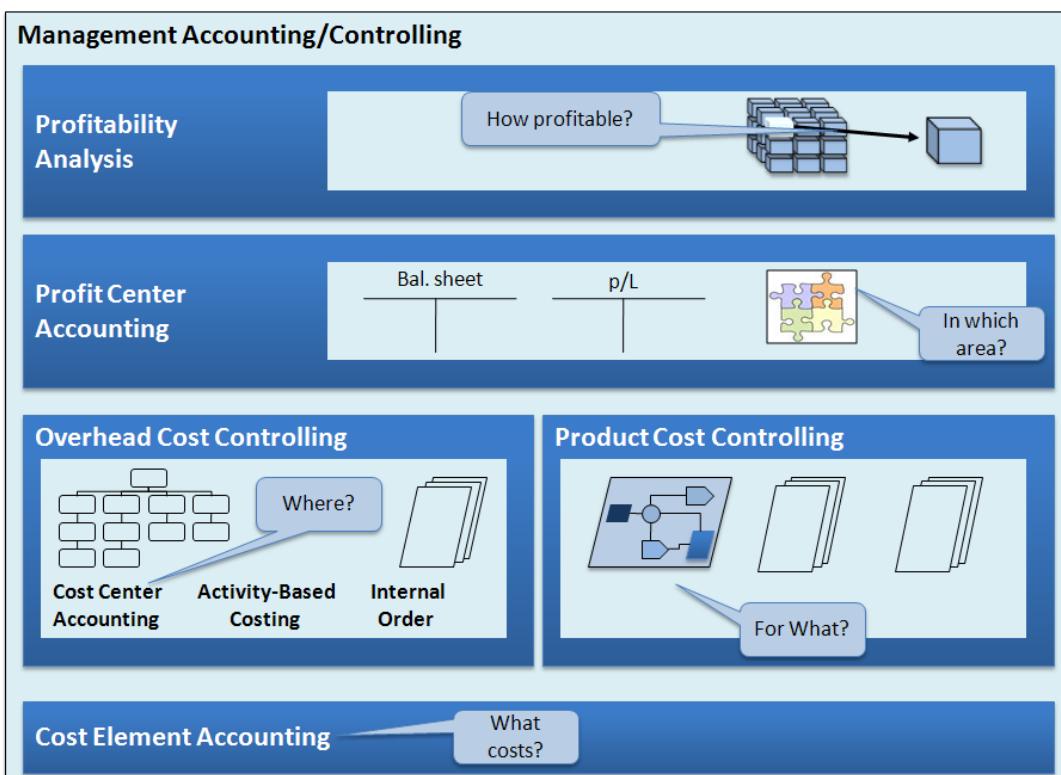


Figure 3: Management Accounting Architecture

The main components of Management Accounting are used for different tasks and analyses:

- **Overhead Cost Controlling (CO-OM)** is used for **Controlling overhead costs** and **allocation of costs**. The task of **overhead cost controlling** is to record the origin of costs in the functional areas of a company. Overhead costs include all costs that cannot be assigned directly to a product or service. It is often difficult to determine the cause of overhead costs.
 - o **Cost Center Accounting (CO-OM-CCA)**: Source-related assignment is especially difficult for overhead costs. Cost Center Accounting lets you analyze the overhead costs according to where they were incurred within the organization.
 - o **Cost Element Accounting (CO-OM-CEL)** focuses on **classification of costs** and **reconciliation of data**. Costs and revenues posted in Management Accounting are classified by using cost element accounting. Cost element ac-

counting also allows for cost reconciliation between financial accounting and Management Accounting.

- **Activity Based Costing (CO-OM-ABC)** features additional options of cost allocation.
- **Internal Orders (CO-OM-OPA):** Internal orders are normally used to plan, collect and settle the costs of internal jobs and tasks.
- **Product Cost Controlling (CO-PC)** is used for **evaluating of costs** for goods or services. In Product Cost Accounting, the costs of goods manufactured and the costs of a service or for carrying out a project (planned and actual) are calculated and valued. This component provides tools for an encompassing analysis of value-adding processes in a company.
- **Profitability Analysis (CO-PA)** enables you to analyze company activities and their effects on external markets (not company-internal). This component determines the company success and the development of the profitability in different market segments (e.g., product divisions).
- **Profit Center Accounting (EC-PCA)** is used to **evaluate individual profit center success**. Thereby, it analyzes the success of profit centers in a company. Thus, you can represent the internal market of the company, especially if you use multiple valuation methods and transfer prices.

2.1.3 Value Flow in Management Accounting

Costs incurred in one part of a company often are transferred to a different area. For example, overhead costs of administrative cost centers can be transferred to production cost centers. These costs are then in turn transferred to the production process, e.g., posted on production orders.

Within overhead cost controlling, costs can be posted to cost centers, internal orders and processes from other SAP ERP components (external costs). The cost centers can then transfer the costs to other cost centers, orders, or processes in activity-based costing (ABC). Activity-based costing can in turn transfer costs to cost centers and orders. Internal orders can transfer costs to cost centers, processes in activity-based costing or other internal orders.

There can be central cost flows between overhead cost accounting and product cost controlling. Cost objects such as production orders can receive direct postings from financial accounting, costs from cost centers, settled costs from internal orders as well as costs transferred from activity-based costing.

The components of profitability accounting are also closely linked to overhead cost controlling and product cost controlling. Profit center accounting contains statistical cost postings from all other Management Accounting components.

Along with direct postings from financial accounting, Profitability Analysis can also receive cost assessments from cost centers and activity-based costing processes, cost settlements of internal orders and production variances settled from cost objects.

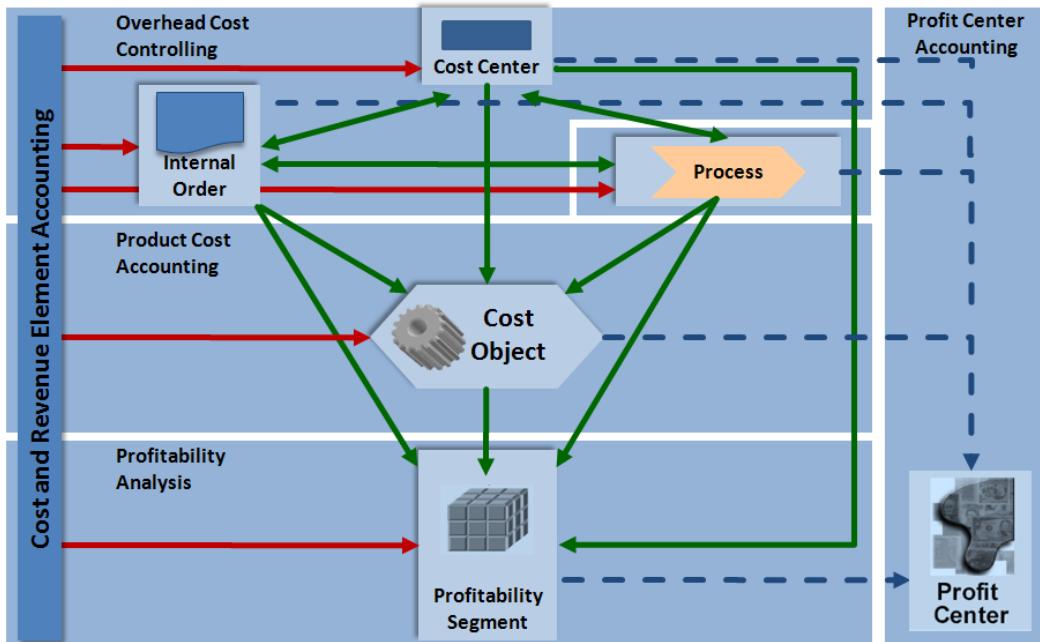


Figure 4: Value Flow in Management Accounting

2.1.4 Integration with in SAP CO and with other SAP ERP Components

Transactions carried out in other SAP ERP components can directly affect Management Accounting. Thereby, all cost relevant data which need a posting in controlling flow automatically to Management Accounting from Financial Accounting and other applications. For example, when a non-stock item is purchased by a cost center, this results in posting an expense to the general ledger. This expense is then also posted to the cost center that caused the purchase. The costs of this cost center can later be transferred to a production cost center as overhead.

The following figure illustrates several examples of interrelation between these components and with other SAP ERP applications.

The red arrows between the individual components visualize the typical flow of cost and activity quantities (e.g., working hours) between these SAP CO components. The green arrows indicate the cost and revenue flows from SAP FI or other SAP ERP components (SD, PP, MM, HCM, etc.)

1. For instance, overhead costs from a cost center, internal order or process can be transferred to a production order as an overhead allocation. Costs can also be charged as overhead to the same production order as working hours, i.e., personnel costs can be calculated by multiplying the number of hours by a particular hourly rate.
2. Similarly, costs from Overhead Cost Controlling (CO-OM) and Product Cost Accounting (CO-PC) can be considered in the Profitability Analysis (CO-PA) in which they are used in combination with the revenue data from SAP FI for determining the operating results. Thus, you can determine how profitable the various areas in a company are.
3. Other SAP ERP components can post expenses or revenues to Management Accounting.

- Postings to an expense account in Financial Accounting (SAP FI) can, for example, lead to a posting in CO-OM.
- In the same way, Financial Accounting can post revenues to CO-PA directly.
- There are also cost flows between Financial Accounting and CO-PC; raw material costs incurred in the production process are recorded here.
- Moreover, there is a cost flow back to Financial Accounting if production costs were activated as a finished product or WIP (work in process).

Other SAP components such as Human Capital Management or Logistics (Materials Management, Sales and Distribution, Production Planning) are linked to Management Accounting as well, since every activity in those components generates costs that need to be posted to a cost carrier (cost center, internal order, etc.):

Financial Accounting (FI) in SAP ERP is the main data source for Management Accounting. Most expense postings in the general ledger result in a cost posting in Management Accounting. These expense postings in the general ledger (FI-GL) can be journal postings, vendor invoices (FI-AP) or depreciation postings from Asset Management (FI-AA).

Sales Order Management (SD) is the main source for revenue posting from billing documents to revenue postings in Profitability Analysis (CO-PA) and Profit Center Accounting (EC-PCA). Each time a SD posting occurs, profitability analysis and profit center accounting are normally updated with revenue and sales discounts. In addition a cost-of-goods sold posting also occurs.

Human Capital Management (HCM) can lead to cost postings in Management Accounting. HCM allows for transferring labor costs, payroll data or timesheet data to different controlling objects such as a cost center or an internal order. Moreover, planned personnel costs can be transferred and can be used for planning in Management Accounting.

In **Materials Management (MM)**, a goods issue can trigger a cost posting in Management Accounting to the associated cost object. Product cost calculations created in Management Accounting affect the price fields in material master records directly. Finally, creation of commitment postings in Management Accounting can be a result of the creation of purchase orders in Materials Management.

The **Manufacturing Execution (PP)** of Logistics is also closely integrated with Management Accounting as well. BOMs and routings created in production are used in Product Cost Accounting for material cost calculation.

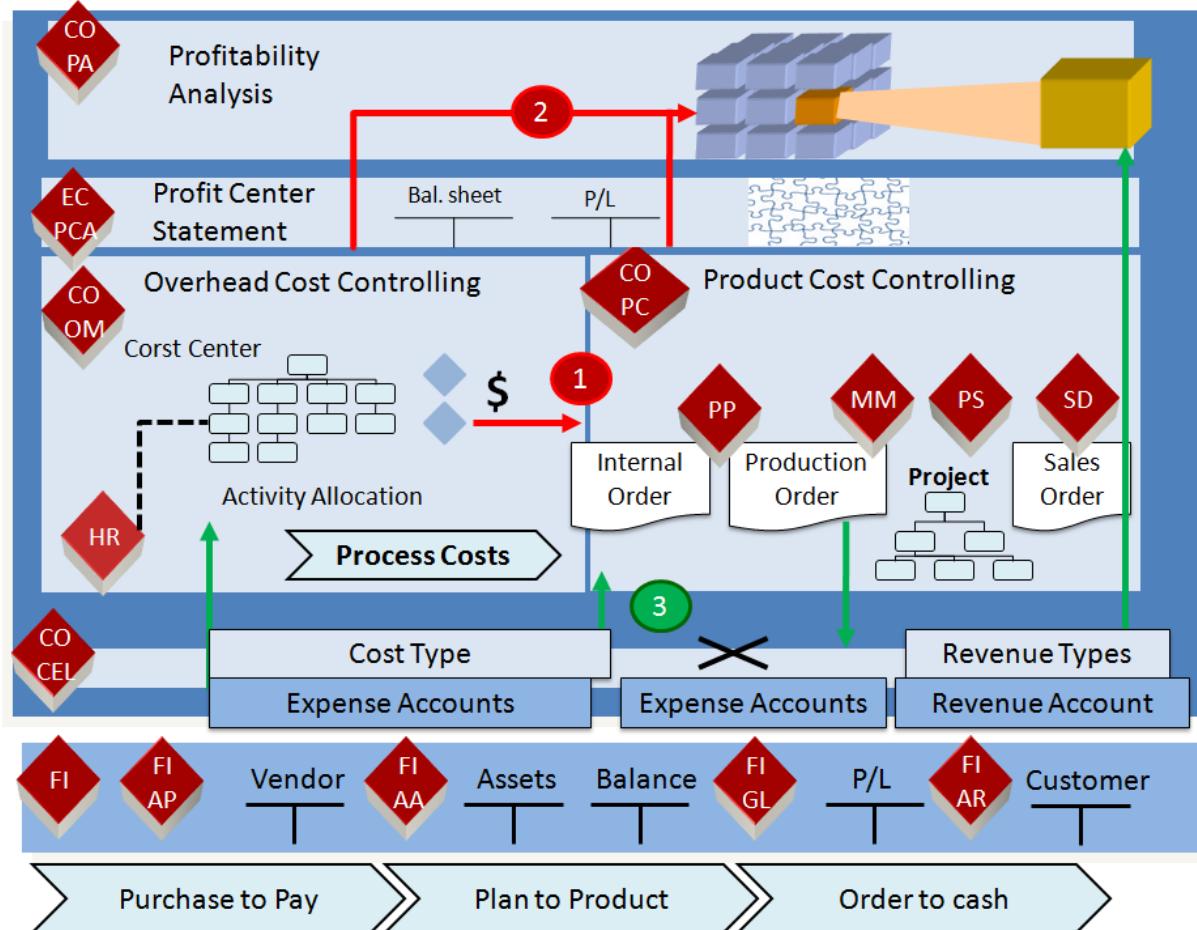


Figure 5: Integration with other SAP ERP Components

2.1.5 Organizational Levels in Management Accounting

A **Controlling Area** is the basic organizational unit in Management Accounting. A controlling area represents a closed entity for cost accounting. Costs can only be allocated within a controlling area. Objects in other controlling areas cannot be included in this allocation. You can assign **several company codes** to a controlling area, which allows for cross-company code controlling (e.g., allocation of costs). To allow for a cross-company code allocation, the controlling area and the company codes must have **the same operating chart of accounts** and feature **the same fiscal year variant** (only the number of special periods can vary).

The **Operating Concern** controls **Profitability Analysis** (CO-PA) and represents the structure of the external market segments of a company. You can assign several controlling areas to one operating concern and, thus, analyze them together.

A **Company Code** is an independent accounting unit; on this organizational level, balance sheets and P/L statements are created. This fulfills the legal requirements for accounting.

Using **Business Areas**, you can group the strategic business units for balance sheets and P/L statements (only for reporting, not suitable for auditing). Business areas can also be cross-company code.

A **Plant** is the production unit and represents the central organizational unit of materials management and production planning. A plant is always assigned to a company code.

A **Purchasing Organization** is an organizational unit used in materials management (purchasing).

A **Sales organization** is an organizational unit used in sales order management.

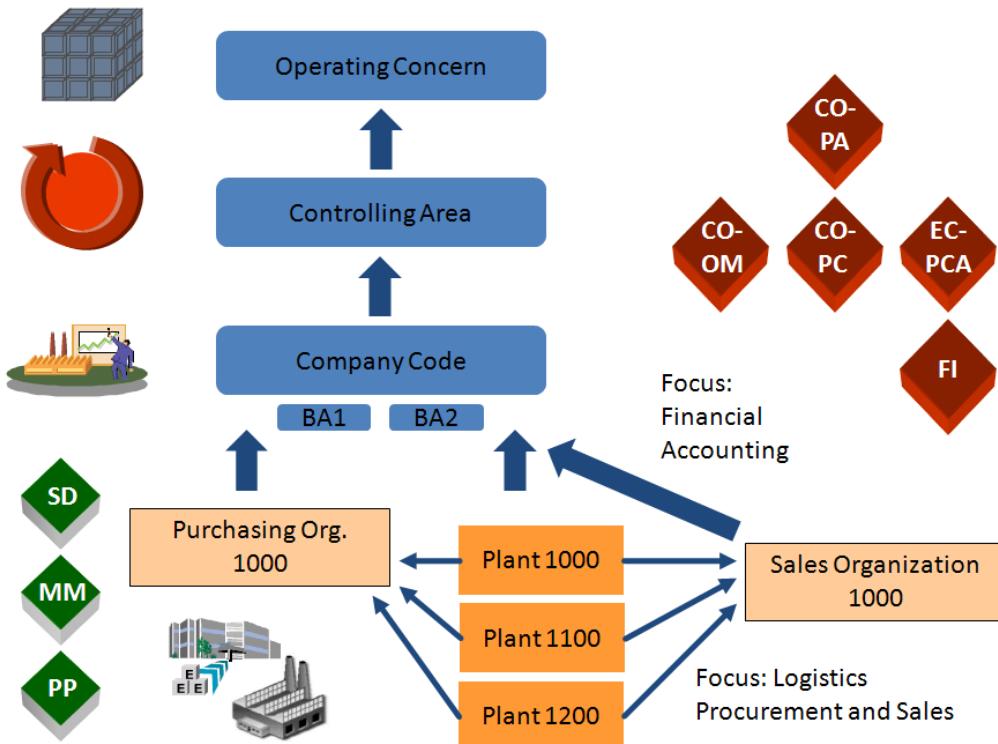


Figure 6: Organizational Levels in Management Accounting

Multiple Assignments

You can perform cost accounting for multiple company codes if you assign all company codes to a controlling area. You can allocate values in Management Accounting that affect more than one company code.

In cross-company code controlling, the controlling area and the company codes can use different currencies. The currency of a controlling area can be the same as the currency of one company code. However, it can also differ from all company codes assigned to the controlling area.

You can use three types of currencies in Management Accounting:

- **the controlling area currency**
- **the company code or object currency**
- **the transaction currency** (for posting a document in Management Accounting)

The default setting for cross-company code controlling is to use the company code currency as object currency. This setting cannot be changed. In case only one company code was assigned to a controlling area, you can assign the object currency to each controlling object (e.g., a cost center) if required.

In case several company codes are assigned to a controlling area, all companies of the controlling area must use the same operating chart of accounting. These accounts can, however, be linked to country-specific accounts by using the account master data record in which the alternative account number is stored to meet country-specific requirements.

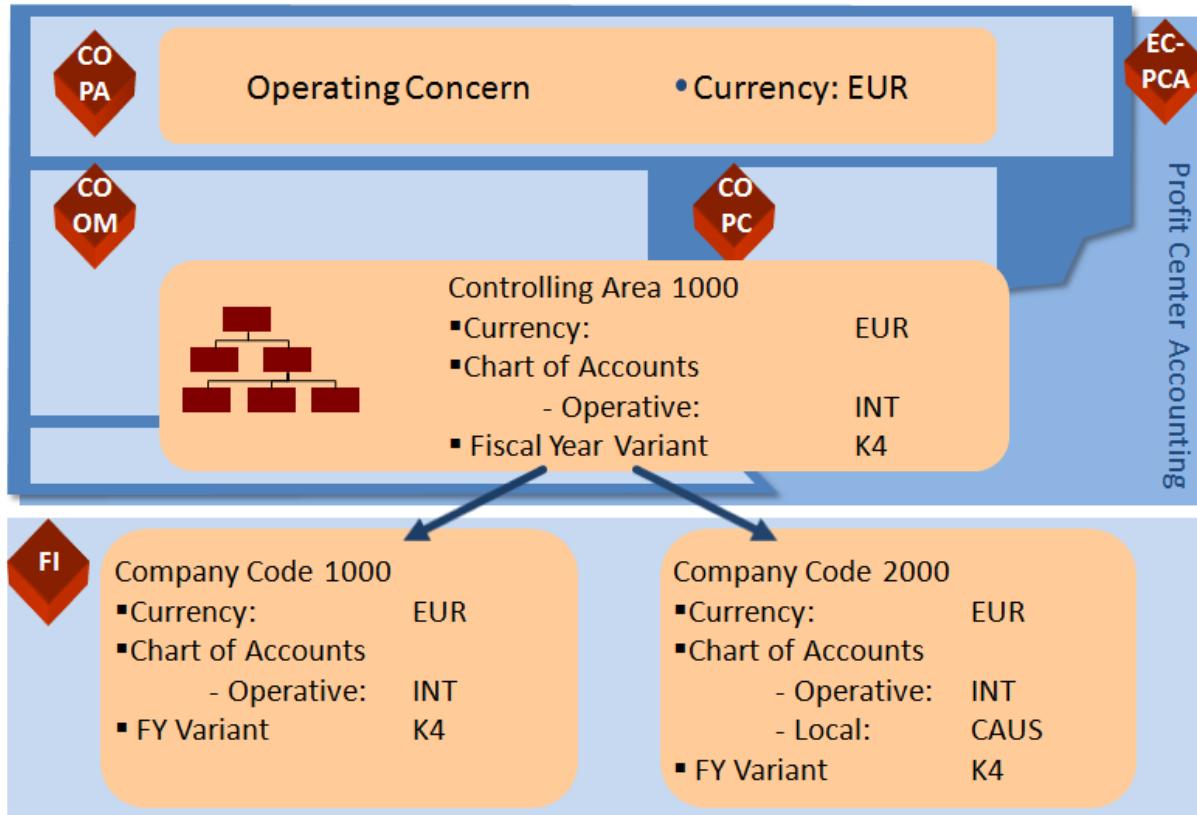


Figure 7: Multiple Assignments

2.2 Elucidation



What have we learned so far?

This chapter gave you an overview of the components and tasks of Management Accounting, its delimitation to and its close integration with Financial Accounting and the organizational units relevant for Controlling.

2.2.1 Comparison of Financial Accounting and Management Accounting

Management Accounting

- Provides information for management decision-making
- Facilitates coordination, monitoring and optimization of all processes in an organization
- Consists of all functions required for effective controlling of expenses and revenues
- Recording of production factors consumption and documenting actual events
- Main task of controlling is planning. Thereby, variances between actual with plan data is central for controlling business flows.
- Income statements such as contribution margin accounting are used to control the cost efficiency of individual areas of an organization as well as the entire organization.
- Management accounting is **internal** accounting

Financial Accounting

- Main task is external reporting
- Provides financial reports such as balance sheets and P&L statements
- External reporting requirements are determined by general accounting standards, such as GAAP or IAS and are specified by law
- Financial accounting is **external** accounting

2.2.2 Architecture and Tasks of Management Accounting

Management Accounting consists of several components:

Overhead Cost Controlling (CO-OM):

The Overhead Cost Controlling component enables you to plan, allocate, control and monitor overhead costs. All overhead costs are assigned to the cost centers where they were incurred or to the jobs that triggered them.

What are overhead costs?

Overhead cost is a term usually used to group expenses that are necessary for the processes in a company, but cannot be immediately associated with the products or services produced, i.e., these expenses come from work accomplished that, e.g., do not directly generate profits. Overhead costs can be, e.g., administrative work for IT or in personnel management.

The SAP system provides several methods to allocate these overhead costs to controlling objects true to the cost origins. At the end of a posting period, when all allocations have been made, the plan (target) costs are compared with the corresponding actual costs based on the

operating rate. You can make a source-based analysis of the resulting target/actual variances, and use the analysis for further managerial accounting measures within Controlling.

Overhead cost controlling consists of the following sub-components:

Cost Element Accounting (CO-OM-CEL):

- Cost Element Accounting is the area of cost accounting where you track and structure the costs incurred during a settlement period. It is, thus, not an accounting system as such but rather a detailed recording of data that forms the basis for cost accounting.
- **Cost Element Accounting (CO-OM-CEL)** focuses on **classification of costs** and **reconciliation of data**. Costs and revenues posted in Management Accounting are classified using cost element accounting. Cost element accounting also allows for cost reconciliation between financial accounting and Management Accounting.
- What **types** of costs exist in a company? Examples:
 - Personnel costs
 - Telephone costs
 - Energy costs
 - Consulting costs
 - Raw material costs
 - Production costs
 - ...

Cost Center Accounting (CO-OM-CCA):

- You use Cost Center Accounting for controlling purposes within your organization. The costs incurred by your organization should be transparent. This enables you to check the profitability of individual functional areas and provide decision-making data for management. This requires that all costs be assigned **according to their source**. However, source-related assignment is especially difficult for overhead costs. Cost Center Accounting lets you analyze the overhead costs according to **where** they were incurred within the organization.
- If you want to assign overhead costs accurately to individual products, services or market segments, you need to further allocate the costs to those cost centers directly involved in the creation of the products or services. From these cost centers you can then use different methods to assign the activities and costs to the relevant products, services and market segments. The “activities” of cost centers represent “internal resources” for business processes in Activity-Based Costing.
- **Where** costs are incurred in a company? Examples:
 - Cost center bicycle production
 - Cost center engineering
 - Cost center secretary
 - Cost center postal office
 -

Activity Based Costing (CO-OM-ABC):

- Activity-Based Costing provides a *process-oriented, cross-functional* view of overhead, in contrast to the traditional location-oriented view provided by Cost Center Accounting. Activity-Based Costing, thus, complements and enhances Cost Center Accounting.
- Activity-Based Costing allocates process quantities based on resource and process drivers, allowing you to define cost allocation along the value-added chain more exactly than is possible with overhead rates. Activity-Based Costing also complements and enhances product costing by assigning costs to the business processes where they originated. Cost center resources can allocate to business processes based on their true utilization of activities.
- How much does an activity cost? Examples:
 - o Activity type Consulting hours costs 200 € per 1 hour
 - o Activity type Assembling hours costs 100 € per 1 hour
 - o ...

Internal Orders (CO-OM-OPA):

- Internal orders are normally used to plan, collect and settle the costs of internal jobs and tasks.
- You can monitor your internal orders throughout their entire life-cycle; from initial creation, through the planning and posting of all the actual costs, to the final settlement and archiving.
- Order management within a company usually differentiates between sales-oriented orders and internal orders. Sales-oriented orders (production or sales orders) are intended mainly for the logistical control of input factors and sales activities. Internal orders are categorized as either:
 - o Orders are used only for monitoring objects in Cost Accounting (such as advertising or trade fair orders).
 - o Productive orders that are value-added, that is, orders that can be capitalized (such as in-house construction of an assembly line).
- Internal order management is the most detailed operational level of cost and activity accounting. It can be used for:
 - o Cost monitoring, for example, where costs need to be looked at from object-related aspects, unlike in Cost Element Accounting or Cost Center Accounting.
 - o Assisting decision-making, when you need to decide between in-house production and external procurement.

Product Cost Controlling (CO-PC)

- Product Cost Controlling is used for **evaluation of costs** of goods or services.
- The costs of goods manufactured and the costs of a service or for carrying out a project (planned and actual) are calculated and valued by considering all components (cost centers/activities, materials, etc.) involved in the production of these goods, services and projects.
- This component provides tools for an encompassing analysis of value-adding processes in a company.

- Example: The costs for producing one Speedstar contain the following cost components:
 - o Cost center 1420 - Activity type 4210 (Setup) = 9 €
 - o Cost Center 1420 - Activity type 4211 (Assembly) = 10 €
 - o Raw material Chain = 100 €
 - o Raw material Brakes = 125 €
 - o

Profitability Analysis (CO-PA)

- Profitability Analysis (CO-PA) enables you to analyze company activities and their effects on *external* markets (not company-internal). This component determines the company success and the development of the profitability in different market segments (e.g., product divisions).
- Profitability Analysis (CO-PA) enables you to evaluate market segments which can be classified according to products, customers, orders or any combination of these, or strategic business units such as sales organizations or business areas, with respect to your company's profit or contribution margin.
- The aim of the system is to provide your sales, marketing, product management and corporate planning departments with information to support internal accounting and decision making.
- Examples:
 - o How much did we sell of our product Speedstar in customer segment *Private Customers*?
 - o How well did our sales organization in Germany performed regarding business area bicycles?

Profit Center Accounting (EC-PCA):

- Profit Center Accounting is part of Enterprise Controlling (SAP EC) but is highly integrated with SAP CO.
- Use of profit centers in your company structures is optional.
- When using profit centers, you can delimit areas in your company, e.g., multiple cost centers that functionally belong together and combine them logically to profit centers. Then you can assign costs and revenues occurring in these company areas to the profit center.
- Note that this assignment is a **statistical** posting. That is, a profit center does not carry real costs. The assigned costs and revenues are for analysis purposes only.
- You use Profit Center Accounting to **evaluate individual profit center success**. Thereby, it analyzes the success of profit centers in a company. Thus, you can represent the *internal* market of the company, especially if you use multiple valuation methods and transfer prices (Note the contradiction to CO-PA).
- Examples:
 - o How much profit did the department *bicycles* generate in 2008?
 - o How much costs originated in this department in the last three years?

2.2.3 Value Flow in Management Accounting

SAP CO deals with recording costs and allocating them from one controlling object to another. As you can see from the following examples, there is a wide range of how costs can be posted to a controlling object and how it can be allocated further.

Example 1: SAP CO-OM-CCA

- Overhead costs of administrative cost centers like electricity occur in a company.
- These costs (or part of the total electricity costs) can be transferred to a production cost center which consumes electricity during producing a good.
- The transferred electricity costs are then transferred to the production process. That is, for instance, the costs for electricity are allocated on all the production orders of this production cost center.
- Thus, these costs are then contained in the costs of the finished good (Product cost controlling SAP CO-PC).

Example 2: SAP CO-OM-ABC

- In SAP CO-OM, costs can be posted to controlling objects like cost centers, internal orders, processes, etc.
- Using activity-based costing (SAP CO-OM-ABC), costs can then be transferred further to other controlling objects like other cost centers, orders (internal, sales, production, etc.), processes, etc.
- Activity-based costing can transfer costs to cost centers and orders using activity types (e.g., consulting hours) and activity outputs (100 hours carried out) as basis for direct cost allocation.

Example 3: SAP CO-OM-OPA

- Costs can be posted to internal orders, which can, e.g., serve as enclosed internal projects.
- The Internal order can then transfer these costs to cost centers, processes in activity-based costing or other internal orders.

2.2.4 Integration in SAP CO and with other SAP ERP Components

The SAP CO application is integrated with the following SAP components:

- **Financial Accounting (FI)**
 - o Main data source for Management Accounting, since most expense postings in the general ledger result in a cost posting in Management Accounting.
 - o Expense postings in the general ledger (FI-GL) can be journal postings, vendor invoices (FI-AP) or depreciation postings from Asset Management (FI-AA).
 - o Primary cost element types and revenue element types in SAP CO are always accounts in FI-GL!
- **Sales Order Management (SD)**: Main source for revenue posting from billing documents to revenue postings in Profitability Analysis (CO-PA) and Profit Center Accounting (EC-PCA).
- **Human Capital Management (HCM)**:

- Transferring of labor costs, payroll data, timesheet data to different controlling objects (cost centers, internal orders, etc.)
- Planned personnel costs can be transferred and can be used for planning in SAP CO.
- **Materials Management (MM):**
 - Goods issue can trigger a cost posting in SAP CO to the associated controlling object.
 - Product cost calculations created in SAP CO affect the price fields in material master records.
 - Creation of a purchase order can lead to creation of a commitment posting in SAP CO.
- **Manufacturing Execution (PP):**
 - BOMs and routings are used in Product Cost Accounting (SAP CO-PC) for material cost calculation.

2.2.5 Organizational Levels in Management Accounting

The following organizational levels are relevant to SAP CO

- **Controlling Area**
 - Basic organizational unit in SAP CO
 - Closed entity for cost accounting
 - Costs can only be allocated within a controlling area
 - You can assign **several company codes** to a controlling area which allows for cross-company code controlling (e.g., allocation of costs).
 - To allow for a cross-company code allocation, the controlling area and the company codes must have **the same operating chart of accounts** and feature **the same fiscal year variant** (only the number of special periods can vary).
 - In cross-company code controlling, the controlling area and the company codes can use different currencies. You can use three types of currencies in Management Accounting:
 - **the controlling area currency**
 - **the company code or object currency (standard setting)**
 - **the transaction currency** (for posting a document in Management Accounting)
- **Operating Concern**
 - Controls **Profitability Analysis** (CO-PA) and represents the structure of the external market segments of a company.
 - You can assign several controlling areas to one operating concern and, thus, analyze them together.
- **Company Code**
- **Business Areas**
- **Plant**
- **Purchasing Organization**
- **Sales organization**

3 Cost Center Accounting

The following section delivers insight into Cost Center Accounting within SAP CO.

3.1 Theory: Cost Center Accounting (SAP CO-OM-CCA)



Theory

Cost Center Accounting is one of the central components of Management Accounting. Cost Center Accounting lets you analyze the overhead costs according to **where** they were incurred within the organization. In the following chapter, the master data used in Cost Center Accounting and their relationship to each other is described. Furthermore, you will become acquainted with the posting logic in Cost Center Accounting and types of Cost Allocation.

3.1.1 Master Data in Cost Center Accounting

There are four central master data types in SAP CO which are closely linked to each other. These master data types are:

- Cost Elements
- Cost Centers
- Activity Types
- Statistical Key Figures



You have already learned that the Overhead Cost Controlling component (CO-OM) consists of four major parts. In the context of this teaching unit, only the components Cost Center Accounting (CO-OM-CCA) and Internal Orders (CO-OM-OPA) are discussed in detail. However, Cost Elements and activity types are integral parts of all four components (and of SAP CO, respectively). Consider that Cost Element Accounting (CO-OM-CEL) and Activity-Based Costing (CO-OM-ABC) are only different views on or methods for the same matter that Cost Center Accounting covers.

3.1.1.1 Cost Elements and G/L Accounts

Cost Elements are classifications of the organization's valued consumption of production factors within a **controlling area** (SAP CO view). There are three types of Cost Elements:

- primary Cost Elements
- revenue Elements
- secondary Cost Elements

Secondary Cost Elements exist only in CO but not in the FI chart of accounts. Primary Cost Elements have to exist in the FI chart of accounts **before** they can be created as primary Cost Elements in CO. That is, you first must create an account in the chart of accounts before you can create a corresponding primary cost element with the same number (e.g., cost element 400000 in CO and account 400000 in FI). Thus, primary Cost Elements create the link to Fi-

nancial Accounting. Secondary Cost Elements are used in conjunction with the various allocation techniques in CO. That is, secondary Cost Elements are only used internally.

Each **primary cost element** and **revenue element** corresponds to a cost-relevant item (account) in the chart of accounts resp. general ledger of a **company code** (SAP FI view).

The chart of accounts of a company code is created in financial accounting (SAP FI). Thereby, the accounts are grouped to account classes. For instance, all expense accounts are grouped in a class (class 4) and all revenue accounts are grouped in a different class (class 8). **Expense accounts to which costs are posted for cost accounting purposes must be created simultaneously in Management Accounting.** Thus, you can ensure that all postings that are **primary costs** and are posted to this type of expense account are simultaneously considered in Management Accounting.

Secondary Cost Elements are exclusively defined in controlling and used for company-internal transfers (e.g., assessments or settlements). Secondary cost element types **do not have corresponding G/L accounts in financial management.**

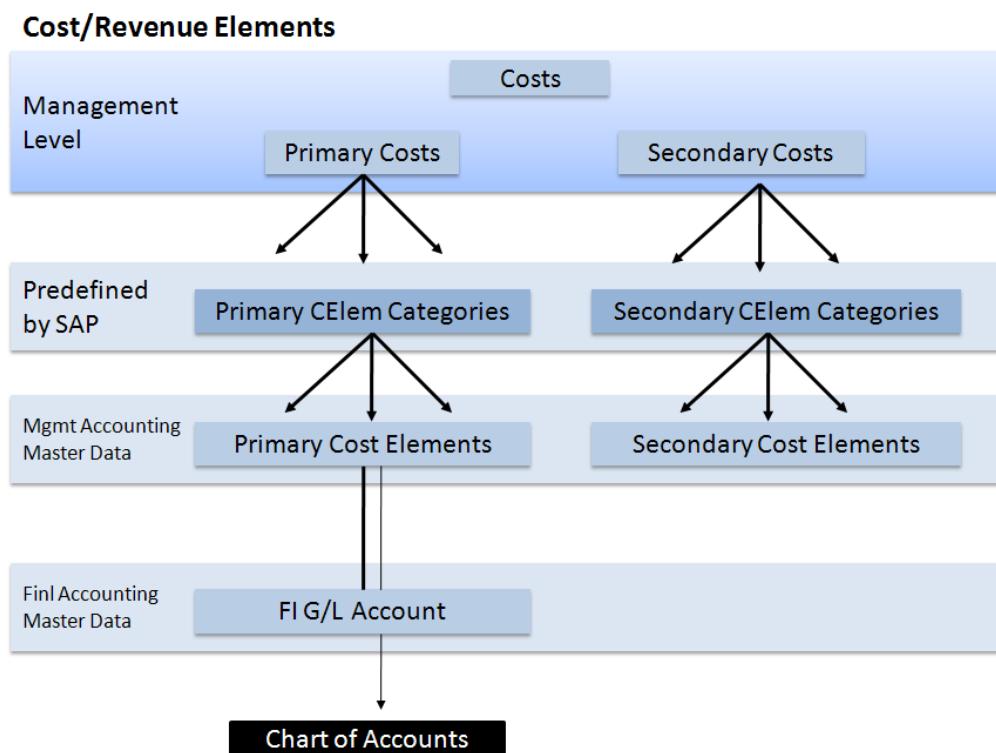


Figure 8: G/L Accounts and Cost Elements

3.1.1.2 Cost Center

A **cost center** is an organizational unit within a controlling area that represents a clearly delimited location of cost occurrence. This delimitation can follow functional, settlement-related, spatial, and/or responsibility-related characteristics.

The purpose of cost centers is to allow for a differentiated assignment of overhead costs to company activities based on the utilization of the respective organizational area (cost deter-

mination function). Moreover, they allow for a differentiated controlling of costs occurring within a company (cost control function).

Using Cost Center Accounting (CO-OM-CCA), you can check where costs occur in a company. There are different ways to set up cost centers. Usually, there is one cost center for each lowest-level organizational unit that is in charge of cost management. Occurring costs are then assigned accordingly to the respective cost center that caused the costs. These costs include payroll costs, rent and utility cost or other costs relevant to the cost center.

Posting costs to cost centers and assigning costs to cost centers does not only allow for managerial accounting, but also provides a vital prerequisite for using the other controlling components.

Setting up cost centers can be based on several criteria. This includes, amongst others:

- functional requirements
- allocation criteria
- activities or services
- geographical aspects or responsibilities

Whichever approach is used to set up the Cost Center Accounting, it should be applied to the entire company consistently.

Cost Center Data

When you create a cost center in SAP ERP, you enter the following data in the Basic Data section:

- Name and description of the cost center
- Name of the responsible person or cost center manager
- Department to which the cost center is assigned and the **profit center**: Thereby, the profit center field identifies the purpose of the cost center such as production, service, sales or administration.
- The **cost center hierarchy** field displays the standard hierarchy node to which the cost center is assigned. This field **must** be filled so it can be used as a control feature in Cost Center Accounting. Each controlling area must have a unique standard hierarchy that includes every cost center created in that controlling area.
- The **company code** and **business area** fields state the close integration between Management Accounting and Financial Accounting. Consider that in case of multiple company codes being assigned to a controlling area, the company code that is assigned to a cost center must be specified. If business areas are used for that company code (as defined in Financial Accounting), a business area must also be specified in the cost center master record.

Figure 9: Cost Center Data

3.1.1.3 Cost Center Standard Hierarchy

Cost centers require a formal structure called a **cost center hierarchy** or **standard hierarchy**. The standard hierarchy represents all cost centers of one controlling area from a Controlling perspective in a tree structure. It contains all cost centers for a given period and, therefore, represents the whole enterprise. You can combine cost centers into cost center groups. You can then create cost center hierarchies from these groups by combining the groups according to decision-making area, area of responsibility or management area. This following figure displays the standard hierarchy for the cost centers used in IDES.

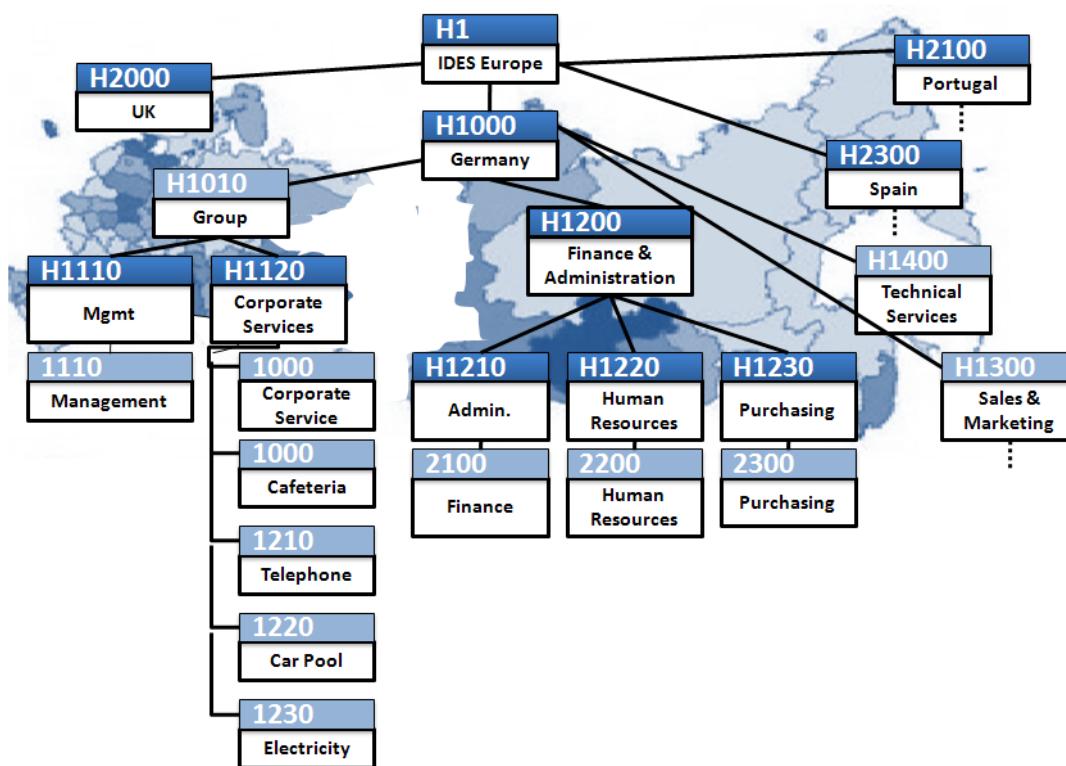


Figure 10: Standard Hierarchy: All Cost Centers per Controlling Area

3.1.1.4 Activity Types

An **activity type** classifies the activities that are performed in a company by one or multiple cost centers. Activity types are considered the productive output of a cost center, which are usually measured in a time or unit increment. Examples of activity types are labor hours (measured in hours), machine time (measured in terms of output quantity), engineering hours, etc.

If activities are performed by a cost center within a company, e.g., for other cost centers, orders or processes, resources of the cost center are consumed. The costs of these resources must be allocated to the activity receiver. Activity types are used as *tracing factors for this cost allocation*.

For internal activity allocation, the activity quantity performed by a cost center such as the number of consulting hours is entered either manually or automatically in the system. The corresponding costs are calculated by the system by using the activity price. Then a debit to the receiver and a credit to the sender are created concerning quantity and costs. The internal activity is allocated by using *secondary cost element types*, which are stored in the master data of the activity types as default values.

Using a particular activity type can be restricted to specific cost center types. Thereby, you must include the allowed cost centers in the master record of the activity type. You can enter up to eight allowed cost center types in the master record of the activity type. This assignment can also be carried out “unrestricted” by entering a star (*) into the respective field of the activity type.

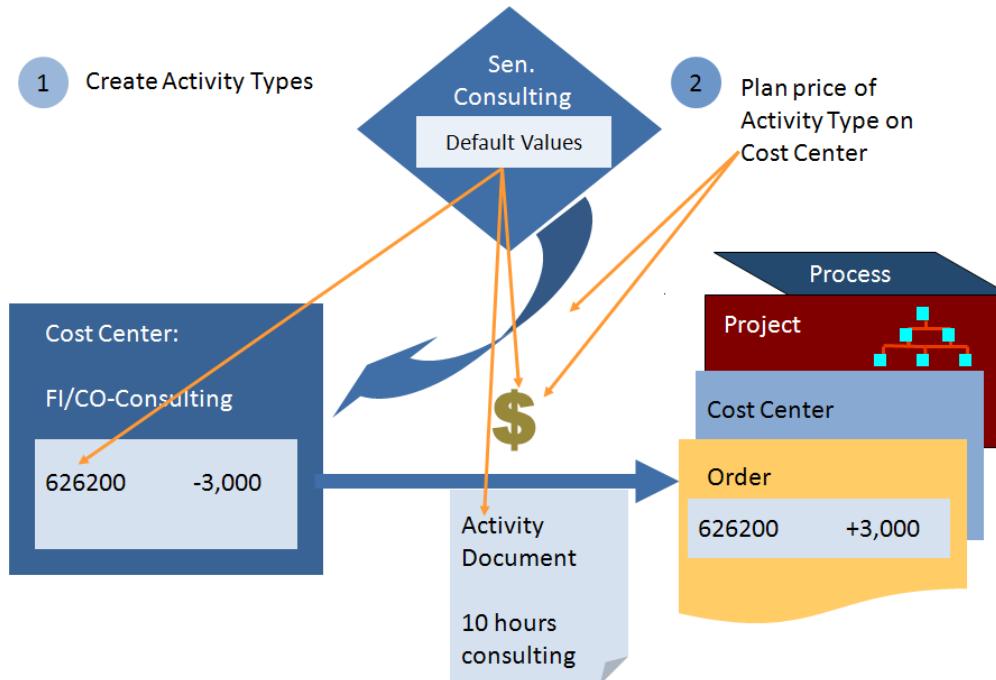


Figure 11: Activity Types

3.1.1.5 Relationship between Cost Center and Activity Type

To run internal activity allocation, you need to determine which cost centers provide which activity type at what price. That is, to be able to use an activity type to allocate costs from one cost object to another, it must be assigned to the cost center responsible for providing the ac-

tivity. This setting is carried out in SAP ERP by planning activity output and prices for a cost center. SAP provides you with encompassing features.

In **direct activity allocation**, the activity quantity to be allocated is entered manually. To run cost and activity allocation, SAP ERP evaluates the amount of activity allocation by using the sender's price for the activity type. In direct activity allocation, the **plan price** for the combination of “cost center/activity type” is used for this calculation.

The **planned price** can be entered either manually or it can be calculated automatically by the system within planning. To allow both costs and activity allocation, the SAP system evaluates the price specified by the sender for this activity type. This procedure is applicable if price calculation is structured simply. For example, you should use this procedure if prices required for rates are determined within the company and are not depending on internally produced activities, or if a rate depends on prices of external suppliers and not on the costs of a cost center.

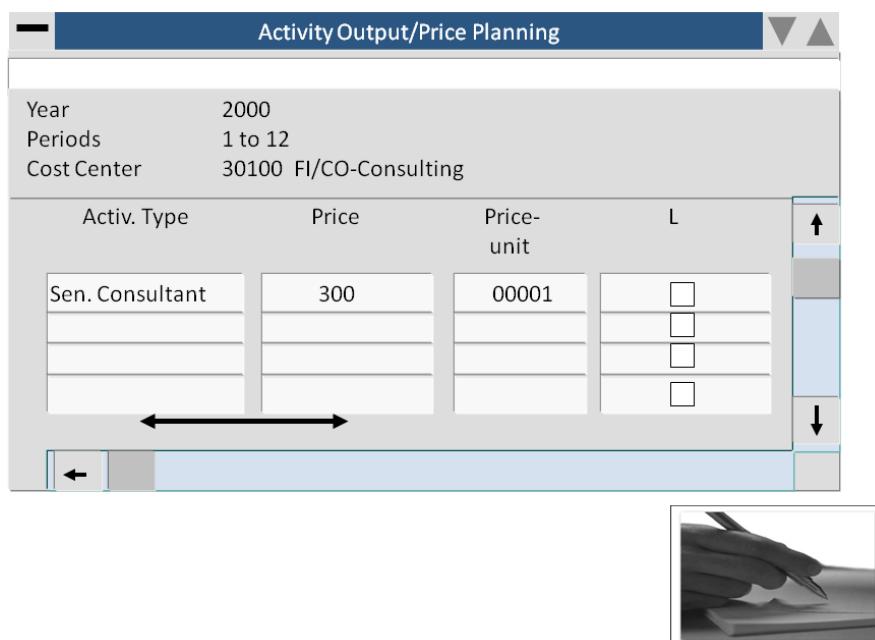


Figure 12: Relationship between Cost Center and Activity Type

3.1.1.6 Statistical Key Figures

Statistical key figures define measurable values that can be applied to cost centers, profit centers, internal orders or processes. This includes, for example:

- the total number of employees in a cost center
- long-distance calls (measures in minutes)
- the number of employees that perform vehicle repairs in the transportation cost center

Statistical values can be posted both as planned and actual values. Statistical key figures can be considered as allocation basis (“tracing factor” in CO terminology) for periodic transactions such as distribution or assessment or for analysis purposes (e.g., for calculating rent cost per employee).

There are two types of statistical key figures in the SAP ERP system. Statistical key figures can be defined as either **fixed values** or **total values**:

- Key figures defined as **fixed values** are valid as of the posting period and in all subsequent posting periods of the fiscal year. A fixed value is transferred to all subsequent periods by the period in which it was posted. This procedure is used for statistical key figures that are usually constant over a certain period of time (e.g., number of employees). You only need to post a new value for the statistical key figure when the value changes.
- Key figures defined as **totals values** are valid only in the posting period in which they are entered. A total value is not transferred to the subsequent period but needs to be entered for each period. This procedure is used for key figures that change from period to period (e.g., electricity consumption in kilowatt-hours).

You enter statistical key figures either manually or you can transfer them automatically from the information systems of other SAP System application components. To do this, statistical key figure maintenance includes an interface that enables you to link the statistical key figures in Controlling with those in the Logistics Information System (LIS). This is realized by linking a key figure from the LIS with a key figure in Cost Center Accounting.

- A measurable quantity that can be assigned to Cost Centers, Activity Types, Overhead Orders, Business Processes, and Profit Centers
- Uses as an allocation base ("Tracing Factor") in overhead cost allocations
- Two categories: Type 1 = Fixed, Type 2 = Totals
- Can be linked to Logistics Information System (LIS)

		Periods	1	2	3	...	12
Type 01		Employees	20	20	20		20
Type 02		Counter no.	1300	1355	1275		1325

Figure 13: Statistical Key Figures

3.1.1.7 Master Data Groups

In **master data groups**, you can group master data (cost center, cost element type, activity type, etc.) of Management Accounting. Thus, several functions for these objects such as analyses, allocations, transfers, etc. can be carried out collectively.

Master data groups can be used to facilitate reporting, planning costs and allocating costs. If master data groups are, for example, used in reporting, each hierarchical level can automatically create the totals for the subsequently lower level. The master data themselves are assigned to the lowest level node in the structure. The SAP system ensures that a value (cost center, cost element type, activity type, etc.) only appears once in a group. You can create as many **different** groups as required. You can use each value (e.g., activity type) in more than one group.

The standard hierarchy for a cost center is a special type of cost center group. Each controlling area must feature a unique standard hierarchy. All cost centers of this controlling area must be assigned to a node of this standard hierarchy.

Each name (description) of a master data group can only be used once per client. If you, for example, create a cost center group called **tools management**, you cannot use this name for a different cost center group.

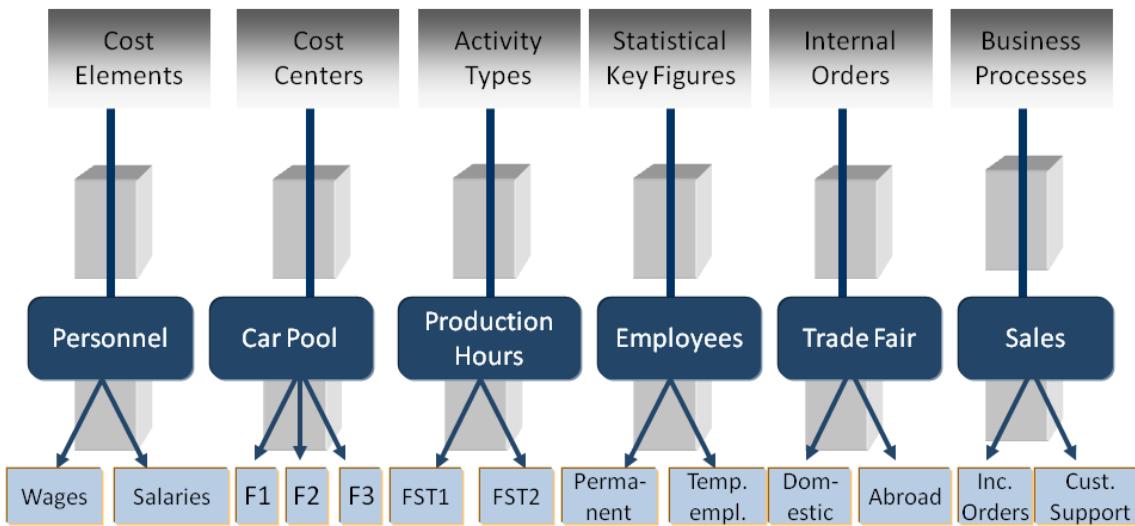


Figure 14: Master Data Groups

3.1.2 Cost Center Planning

Cost center planning is used to enter plan figures for costs, activities, prices or statistical key figures for cost centers and always with reference to a particular planning period. Based on the planned data, you can determine the variances from these planned numbers when you come to compare these plan values with the costs actually incurred.

Cost center planning is part of the overall business planning process, and it is a prerequisite for standard costing. You can take plan costs and plan activity quantities to determine the (activity) prices. These prices can be used to valuate internal activities during the ongoing period, that is, before the actual costs are known.

Cost center planning has the following objectives:

- to plan the structure of the organization's future operations for a clearly defined time period,
- to control business methods within the current settlement period,
- to monitor efficiency after completion of the settlement period by using plan/actual or target/actual comparisons,
- to provide a basis for the valuation of organizational activities, independent of random fluctuations.

Cost center planning can be carried out either manually or by an automatic procedure such as formula planning.

Planned values (such as planned personnel costs or planned depreciations) can be transferred directly from Human Capital Management and Assets Accounting (FI-AA) to the cost centers.

You can plan both fixed and variable costs for each area of responsibilities, i.e., for each cost center. The delimitation process allows for debiting cost centers with calculatory costs. Within the framework of **distributions** and **assessments**, costs planned at a cost center can be allocated according to user-defined keys (e.g., percentages, amounts or statistical key figures). The advantage of this procedure is that it is easy to manage: the keys as well as sender-receiver-relationships are only defined once.

Cost center planning aims at determining planned costs for a later **deviation definition** as well as prepare **allocation to cost bearers**. By standard, you plan based on absorption costing, i.e., you try to allocate all costs in the overhead costs area to the cost bearers in a company by using different procedures.

Activity type planning is an important step in cost center planning, since planned activity quantities can influence planned costs. Activity quantities can either be determined manually or copied from other components such as Production Planning (PP). Therefore, the closing of cost center planning concludes price determination for the activities of the cost centers. The *price per cost center/activity type* is entered manually or is calculated automatically according to automatic price calculation based on planned costs. Since the activity amount is valued with this price, there is a combined quantity and value flow resulting from activity allocation.

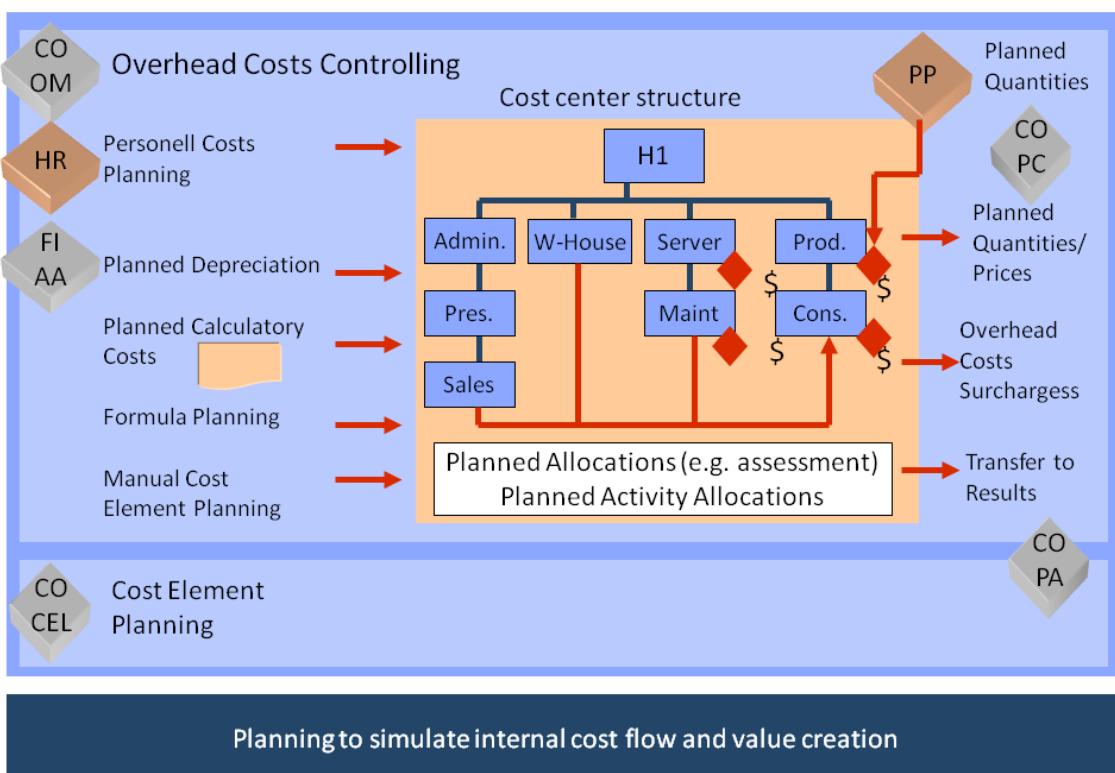


Figure 15: Cost Center Planning

3.1.3 Posting Logic

When you post an entry in SAP FI to a G/L Account, that is, an expense or revenue account and a corresponding primary cost element exists in Management Accounting, then a corresponding entry is posted in Management Accounting, too.

In the example shown in the figure below, a financial accounting document debited a P/L account and credited a balance sheet account. Simultaneously, the CO accounting document debited the controlling object using the corresponding primary cost element with the same number as the G/L accounting. There is no corresponding credit posting in the CO accounting document.

When posting primary costs in financial accounting, they are treated as one-sided journal entries, in contrast to a conventional balanced financial accounting journal posting.

All transactions that result in cost movements in financial accounting are balanced postings. When costs are transferred from one controlling object to another one, the sender object is credited and the receiving object is debited by the same amount.

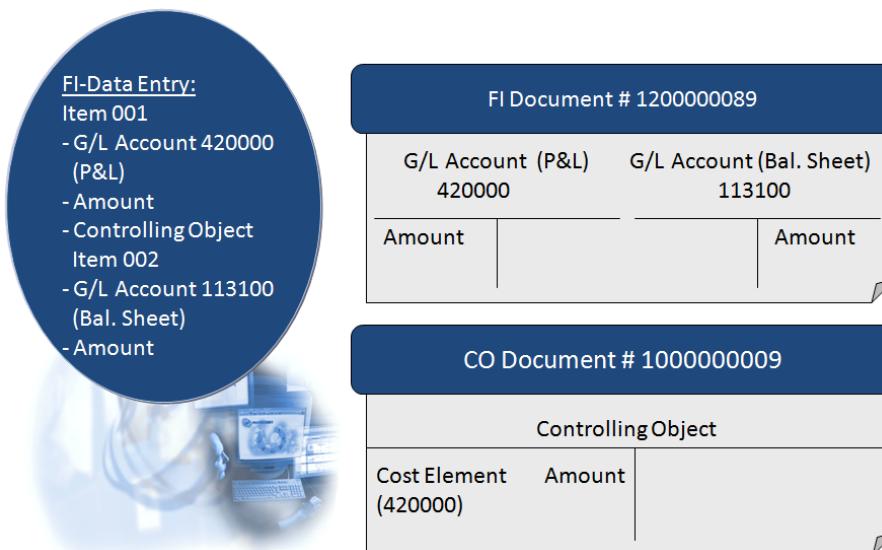


Figure 16: Posting Logic

3.1.3.1 Example: Posting from Financial Accounting to a Cost Center

When creating a journal posting in financial accounting that includes an expense line item, this expense can be posted as a cost to Management Accounting if

- a primary cost element type was created in controlling that corresponds to the expense account used in the FI journal posting and
- the FI line item refers to a valid cost center.

The result is the creation of two separate documents. Along with the **FI document**, a **CO document** is created, each with a unique document number. That is, when an FI document is created that posts to an expense (or revenue) account, which has a corresponding cost element (primary cost element in CO), and a valid controlling object (such as a cost center) is identified for the expense line item, a controlling document is also created.

This CO document has its own unique number and contains the following details:

- controlling object posted to,
- the cost element used and
- the amount

Using the drill down functionality, you can access the FI document from the CO document and vice versa.

The following figure displays the posting entries that place with a simple FI posting. The FI document debits the P&L account and credits a balance sheet account. At the same time, the controlling document debits the controlling objects using the respective primary cost element with the same number as the G/L account. No corresponding credit entry is made in the controlling document.

Primary costs are treated as one-sided journal entries when posting them, as opposed to traditional balanced financial accounting journal entries.

When a primary cost is initially posted into CO, it is treated as a one-sided journal entry, unlike a traditional balanced financial accounting journal entry. (Note that as any subsequent cost movements occur within CO, the transactions creating these cost flows are balanced entries. When a cost is moved from one controlling object to another, such as from one cost center to another, the sending object is credited and the receiving object is debited for the same amount.)

Posting from FI to a Cost Center

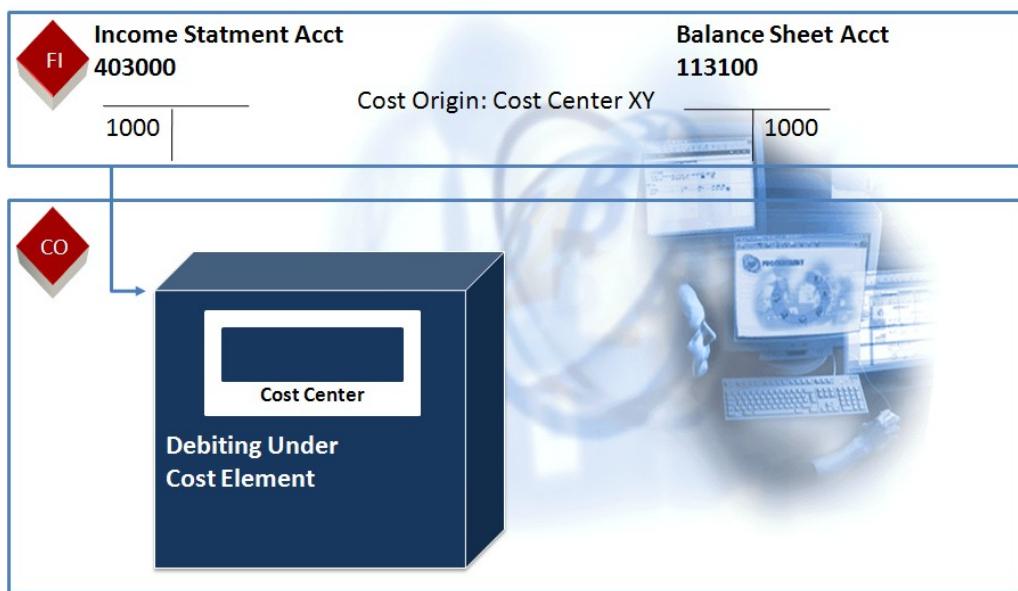


Figure 17: Postings from Financial Accounting to a Cost Center

3.1.3.2 Example: Postings from Materials Management to a Cost Center

Goods issues that are posted in materials management can be assigned to a cost center. For example, you can post costs for parts that are used in the R&D department for constructing a prototype, to be transferred to a R&D cost center.

From a cost center point of view, this procedure is referred to as material consumption. When a goods issue is entered in the system, a movement type must be entered to differentiate between the different goods movement types. A movement type is an identifying key that has an important functionality in inventory management such as updating stock and consumption accounts. For a goods movement, the movement type determines which fields are required entries as the goods issue posting proceeds. The combination of material number and movement type determines which inventory and cost accounts are affected.

A goods issue to a cost center initiates a transaction in financial accounting resulting in debit posting to a material consumption expense account and a credit posting to a material stock (inventory) account. The cost center is debited by the amount of the goods issue by using a primary cost element.

Posting from MM to a Cost Center

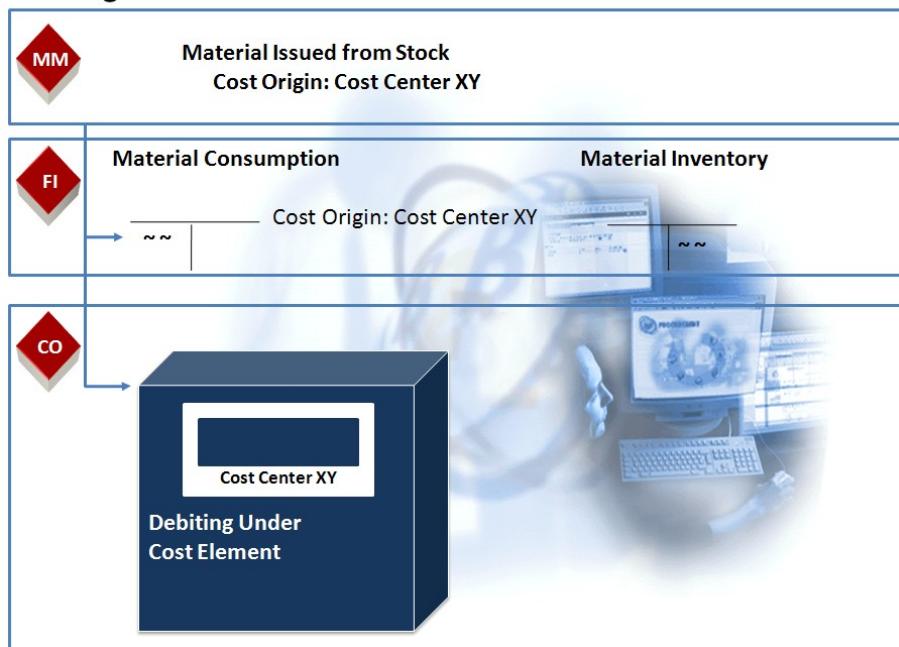


Figure 18: Postings from Materials Management to a Cost Center

3.1.3.3 Real and Statistical Objects in Management Accounting

Posting of costs and revenues in Management Accounting can lead to real (or true) and statistical postings. Real postings can be settled with other objects of financial management. Statistical postings are merely used for information purposes and are usually used in analyses.

Real (true) objects can be used as sender or receiver objects in cost allocation. Examples of real objects are cost centers, real internal orders, real projects, networks, make-to-order production orders or profitability segments.

Statistical objects cannot allocate costs to other objects. Statistical account assignments can be carried out on any number of cost accounting objects. Statistical controlling objects include statistical orders, statistical projects and profit centers.

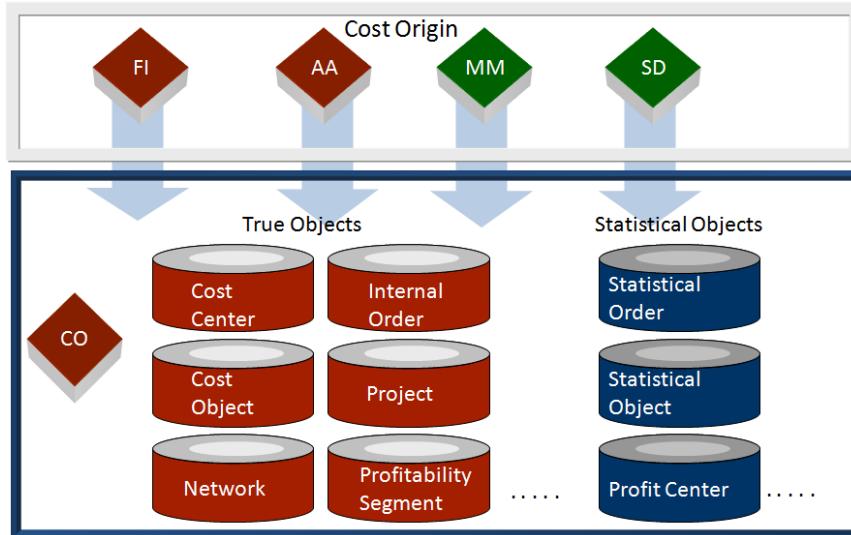


Figure 19: Real and Statistical Objects in Management Accounting

3.1.4 Costs Allocation

Cost allocation is used to distribute cost from a controlling object to another (multiple) controlling object. Cost allocation occurs only internally and, thus, only uses secondary cost element types. That is, allocation Cost Elements are secondary Cost Elements.

SAP provides various methods to further allocate the actual costs you have recorded on controlling object, according to their source. You can distinguish between direct and indirect allocations and between transaction-based (manual) allocations, which occur within one period, and period-based allocations, which occur at period end.

3.1.4.1 Manual Actual Postings

You post actual values manually to enable you to monitor costs on an ongoing basis. The following introduces two methods of manual actual postings.

Manual Cost Allocation

Manual cost allocation involves posting **secondary costs** manually. The system credits a sender object (for example, a cost center) and debits a receiver object (for example, an order). Until now, you could only use automatic methods for cost allocation (such as assessment or distribution; see next chapter). You can use manual allocation to:

- avoid the need for complicated Customizing settings for simple allocations
- manually transfer external data

Direct Activity Allocation

Direct Activity allocation is a transaction based method for allocating costs between a sender and receivers directly by using activity types. Thereby, direct activity allocation focuses on measuring, posting and allocating organizational activities. The corresponding (measurable) tracing factors in the SAP system must be created. In Cost Center Accounting, you refer to these tracing factors as activity types. For direct activity allocation, the activity type must have been created.

To enter a direct activity allocation, you must enter the cost center that provides the activity (sender cost center) and the object that receives the activity (receiver), the type (activity type) and the delivered activity quantity. You can only assign one cost center as sender in internal activity allocation. Any **real** Management Accounting object can be the receiver (e.g., cost center, order, project).

Moreover, you need to specify which cost centers are supposed to deliver which activity amounts in direct activity allocation. This is done by planning activity output of cost centers. In activity allocation, the sender cost center is credited and the receiver controlling objects are debited. Crediting and debiting is carried out by using a secondary cost element with category 43. Crediting and debiting is carried out for the performed amount of activities multiplied by the activity price.

The cost element used for direct activity allocation is derived from the master data of the activity type. The cost element cannot be changed during allocation. The direct activity allocation is posted by line items on the sender and receiver sides.

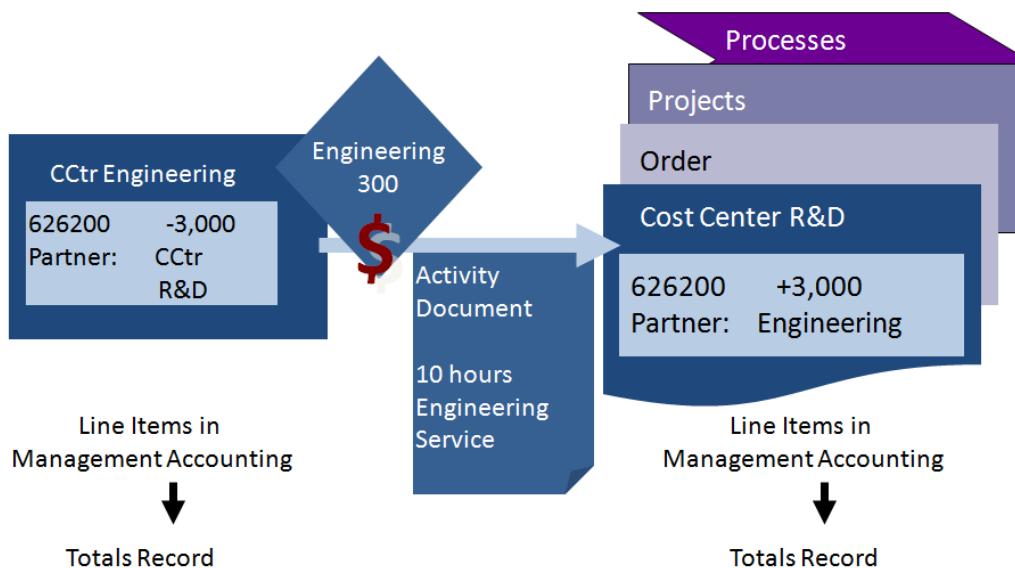


Figure 20: Direct Activity Allocation

3.1.4.2 Periodic Allocations with Sender/Receiver Relationships

Periodic allocations are more commonly used than manual, direct methods. Periodic allocation encompasses cost allocation methods that are carried out **automatically** at the **end of a period** and are considered as **Indirect Allocation** methods. Thereby, SAP ERP provides the following types of periodic allocation:

- Distribution
- Assessment
- Indirect Activity Allocation
- Template Allocation
- (Periodic Reposting)

The following figure displays the principal of a sender/receiver relationship within an indirect allocation cycle that also applies to periodic repostings, distributions and assessments.

Hereby, the sender cost center has costs that are supposed to be allocated to the receiver cost centers. Allocation is based on an appropriate tracing factor, which is a user-defined key for determining cost and quantity allocations for periodic allocations (here: a statistical key figure for the number of m² floor space that each receiver cost center uses).

In the allocation cycle, you can calculate the costs that are supposed to be allocated to each receiver cost center using this key as follows:

- receiver cost center "Administration" occupies 40 m² floor space
- receiver cost center "Production" occupies 360 m² floor space
- the total floor space is 400 m²
- thus, the allocated costs for "administration" amount to:
 - material costs = $(40/400) * 3000 = 300$
 - wages costs = $(40/400) * 4000 = 400$

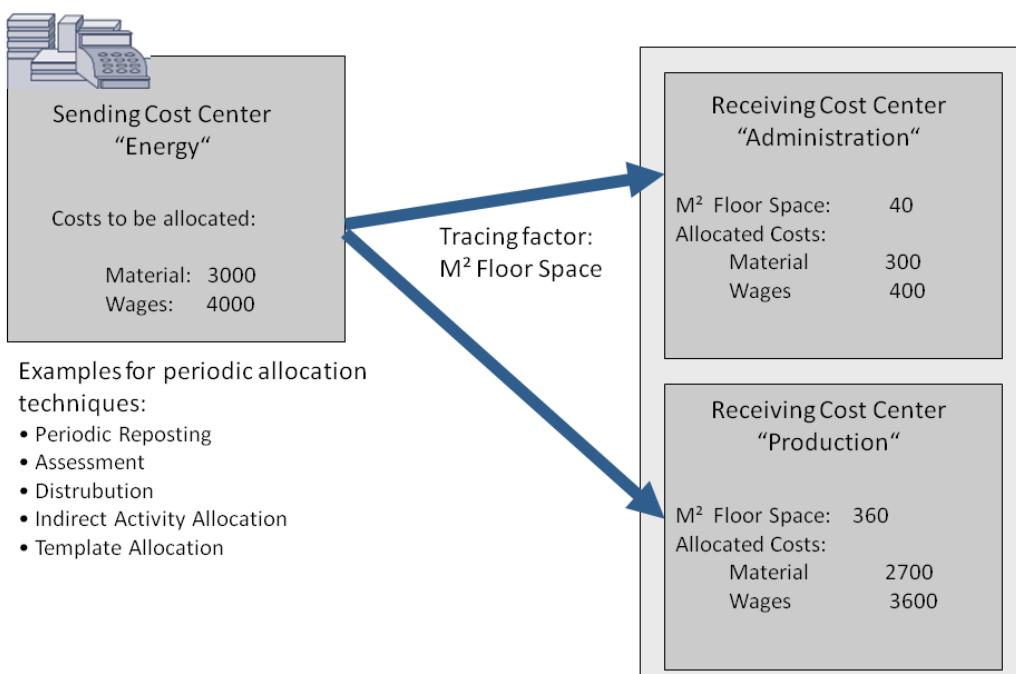


Figure 21: Periodic Allocations with Sender/Receiver Relationships

Example of a Periodic Allocation of Type Assessment

All debits and credits posted to a cost center are combined on a secondary cost element for allocation. The only way to further allocate secondary costs to other cost centers is to use assessments. Assessment affords a higher level of summarization for allocations where the receiving cost center manager has no control over reducing the expense at the sender cost center (e.g. cafeteria cost center allocation).

An **assessment** is carried out for allocating primary and secondary costs from a sender cost center to receiver controlling objects. In assessment allocation, only cost centers or business processes can serve as sender.

The receiver of an assessment can, for example, be other cost centers, WBS elements, internal orders, cost bearers or business processes. The allowed receiver types can be restricted in customizing.

Primary and secondary costs are allocated at period-end closing according to the rules determined in the assessment cycle. In the subsequent example, the allocation rule uses statistical key figures for calculating each allocating amount for the individual receivers. Depending on the individual requirements, there are also other rules available.

An assessment cost element (secondary cost element category 42) is assigned to each segment of an assessment cycle. All costs allocated in an assessment are classified on the receiver(s) with these assessment Cost Elements. Alternatively, you can also define an allocation structure regarding which Cost Elements are supposed to be allocated using which assessment Cost Elements. Alternatively, you can use an allocation structure to define which Cost Elements are to be allocated under which assessment Cost Elements. You can assign individual Cost Elements, cost element groups or intervals to an assessment cost element. The allocation structure can be stored during segment maintenance.

Similar periodic allocations are distribution, periodic repostings, indirect activity allocation and template allocation.

For detailed documentation of allocation both sender and receiver sides record line items. The original Cost Elements are not displayed on sender side. Hence, the allocation using the assessment method is useful if a cost breakdown is not necessary for the receiver. Similarly to a distribution, an assessment updates the partner in the totals record.

An assessment can be reversed and repeated as often as desired.

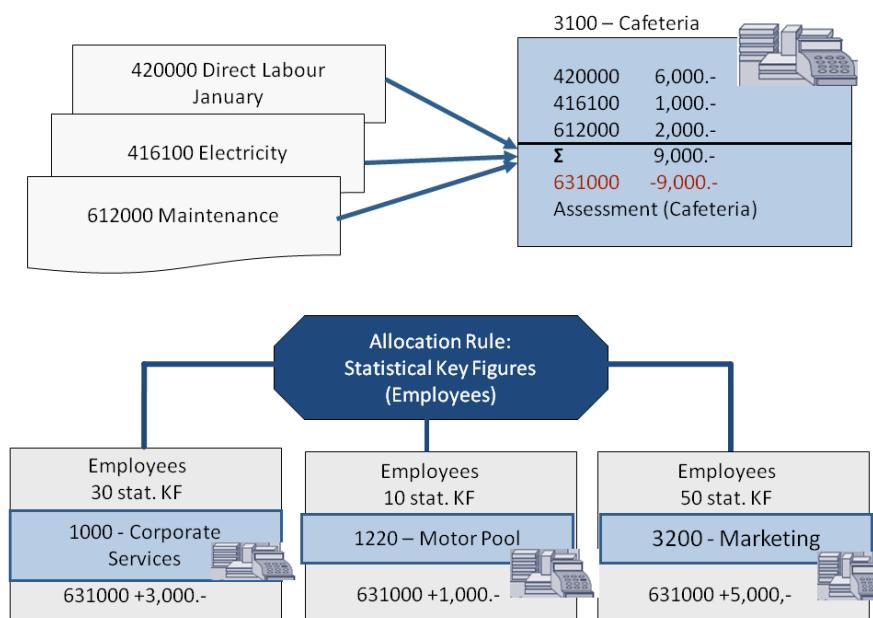


Figure 22: Example of a Periodic Allocation of Type Assessment

3.1.5 Real-Time Integration of Management Accounting and Financial Accounting

Real-time integration refers to the simultaneous synchronization of SAP FI with SAP CO. Every time you post a transaction in SAP FI that involves a primary cost element or revenue element, a corresponding posting is made in SAP CO and an accounting document is created.

In the following figure, you can see an example of real-time integration between SAP CO and SAP FI by using the functional area as characteristic or criterion. The real-time integration can also be defined for the criteria company code, business area, profit center, segment, funds and receivables. The selection is not an either-or decision. Real-time integration can also be activated for all these characteristics at the same time.

The financial document in the figure 2b. has the following features:

- Postings in SAP FI are made in real-time (per document). Reconciliation (only aggregated per expense account/cost element) using the reconciliation ledger in Cost Element Accounting via transaction KALC is no longer required.
- The FI document does not require a clearing account. However, clearing accounts are still required for cross-company code transactions.
- You can access from a document created in SAP FI to the corresponding SAP CO document and vice versa in real-time (see 2 and 2a in the figure). Thus, transparency of accounting documents (in CO and FI) is given at any time.

The documents in real-time integration between Management Accounting and Financial Accounting can be logged by using a trace for subsequent analysis.

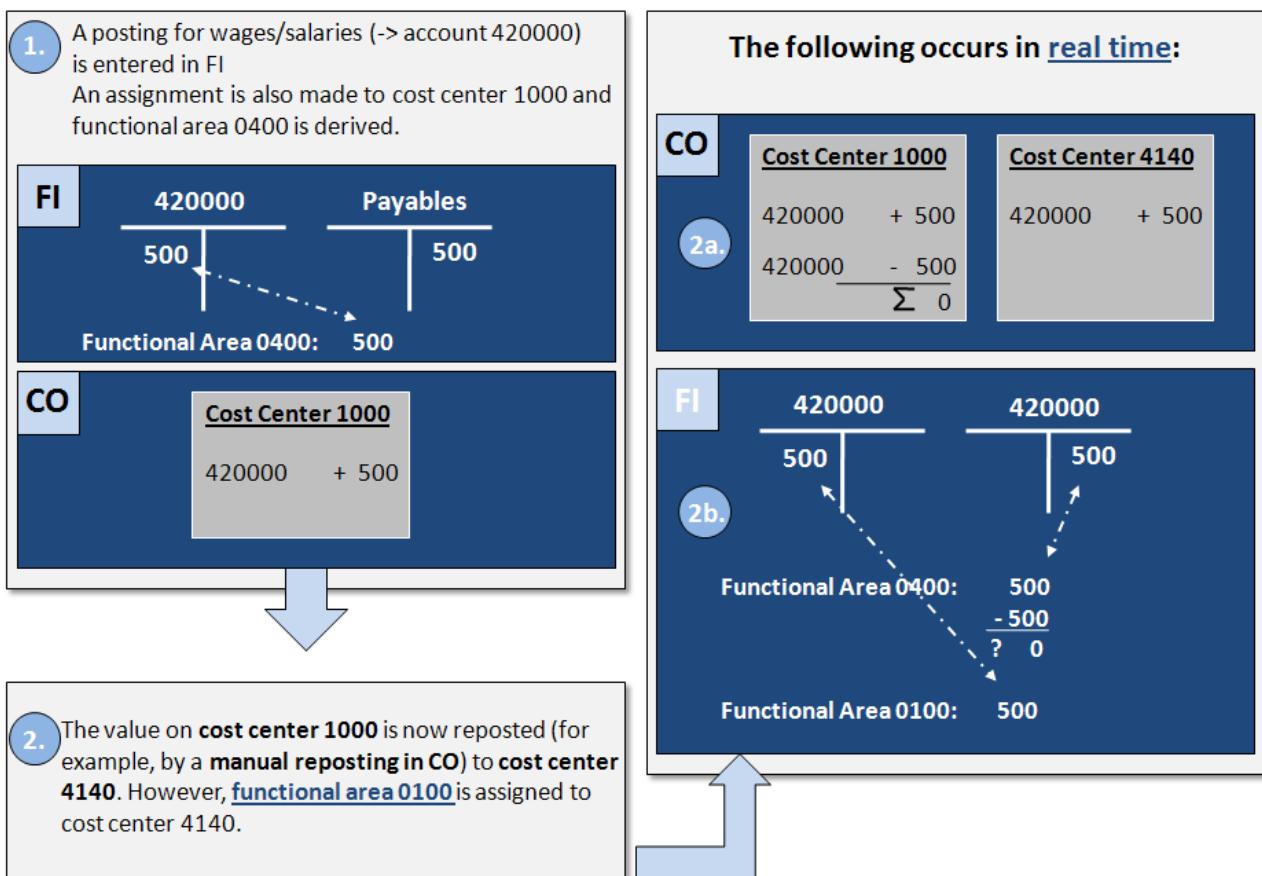


Figure 23: Real-Time Integration of Management Accounting and Financial Accounting

3.2 Practice: Cost Center Accounting (SAP-CO-OM-CCA)



Practice

After reviewing the calculation data, the management decided to increase production efficiency of the Speedstarlett. Therefore, manufacturing is supposed to be carried out at a new work center. Moreover, a new department is supposed to be set up that is in charge of technical maintenance of work centers and that is supposed to internally allocate its services with the other work centers. This decision is in place for quite some time now but the actual set up was postponed. Additionally, the two new work centers receive an own cafeteria, the costs of which they have to bear. Each work center will have an own cost center for cost controlling. The cafeteria will also receive its own cost center.



Note

*You will only create one work center (SAP PP point of view) which will be responsible for manufacturing. All other structures will be created in Controlling (SAP CO point of view). Thus, we only pretend that a **work center (SAP PP)** for maintenance exists for which the **cost center (SAP CO)** maintenance is responsible.*

3.2.1 Cost Center Accounting: Master Data

In sum, the tasks derived from the objectives are as follows:

- maintaining required master data in CO
- carrying out an example cost center planning
- applying internal cost allocation procedures
- integration with PP functional area

You first start with the master data maintenance

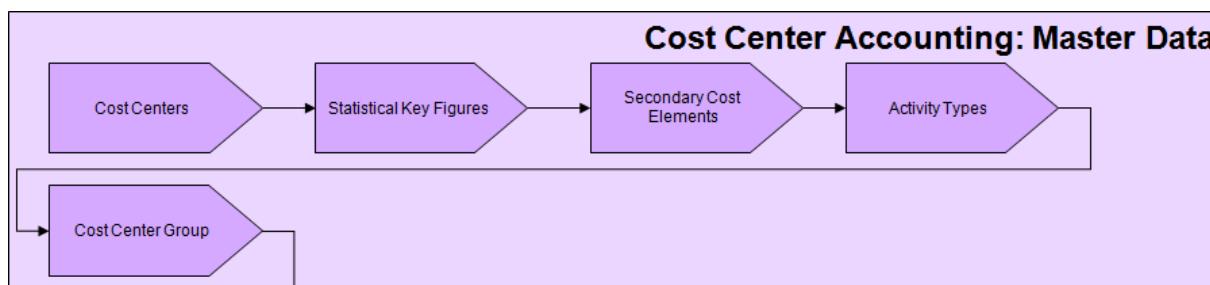


Figure 24: Process Overview: Cost Center Accounting – Master Data

3.2.1.1 Cost Centers

The cost centers you need to create are the two service cost centers cafeteria (**CC-CA-xxyy**) and maintenance (**CC-MT-xxyy**) as well as production cost center manufacturing (**CC-MF-xxyy**). Please bear in mind to replace the string **xxyy** with your user number when creating the cost centers. In the subsequent section, the individual steps are exemplified by using user 9999.

3.2.1.1.1 Cost Center: Cafeteria

Choose the following transaction:

Accounting → Controlling → Cost Center Accounting → Master Data → Cost Center → Individual Processing → Create (KS01)

1. If the system prompts you to enter a **controlling area**, please enter **1000 (CO Europe)**. Confirm with *Enter*.
2. Enter the following data:

- Cost center	CC-CA-xxyy
- Validity from	01.01. (!) of this year
- Validity to	31.12.9999
- Continue with <i>Enter</i> .	
3. Enter the following data:

- Name	Cafeteria-xxyy
- Description	Description of your choice
- Person Responsible	Your name
- Cost Center Category	2 (service cost center)
- Hierarchy area	H1xxyy (Your own hierarchical area)
- Company Code	1000 (IDES AG)
- Business Area	9900 (Corporate/other)
- Profit Center	PROF-xxyy
4. Save the cost center with .

3.2.1.1.2 Cost Center: Maintenance

If you are not already on the **create cost center: initial screen**, choose the following transaction again

Accounting → Controlling → Cost Center Accounting → Master Data → Cost Center → Individual Processing → Create (KS01)

1. Enter the following data:

1. Cost center	CC-MT-xxyy
2. Validity from	01.01. (!) of this year
3. Validity to	31.12.9999
4. Continue with <i>Enter</i> .	
2. Enter the following data:

1. Name	Maintenance-xxyy
2. Description	Description of your choice
3. Person Responsible	Your name
4. Cost Center Category	2 (service cost center)
5. Hierarchy area	H1xxyy (Your own hierarchical area)
6. Company Code	1000 (IDES AG)

7. Business Area **9900 (Corporate/other)**
8. Profit Center **PROF-xxyy**
3. Save the cost center with .

3.2.1.1.3 Cost Center: Manufacturing

Again, call up the subsequent transaction:

Accounting → Controlling → Cost Centers → Master Data → Cost Center → Individual Processing → Create (KS01)

1. Enter the following data:

1. Cost center	CC-MF-xxyy
2. Validity from	01.01. (!) of this year
3. Validity to	31.12.9999
4.	Continue with <i>Enter</i> .

2. Enter the following data:

1. Name	Manufacturing-xxyy
2. Description	Description of your choice
3. Person Responsible	Your name
4. Cost Center Category	1 (production cost center)
5. Hierarchy area	H1xxyy (Your own hierarchical area)
6. Company Code	1000 (IDES AG)
7. Business Area	9900 (Corporate/other)
8. Profit Center	PROF-xxyy

3. Save the cost center with .

3.2.1.1.4 Check Cost Center Hierarchy

Now, display the cost center standard hierarchy (on your own) in transaction OKENN to make sure your cost centers are in the right place.

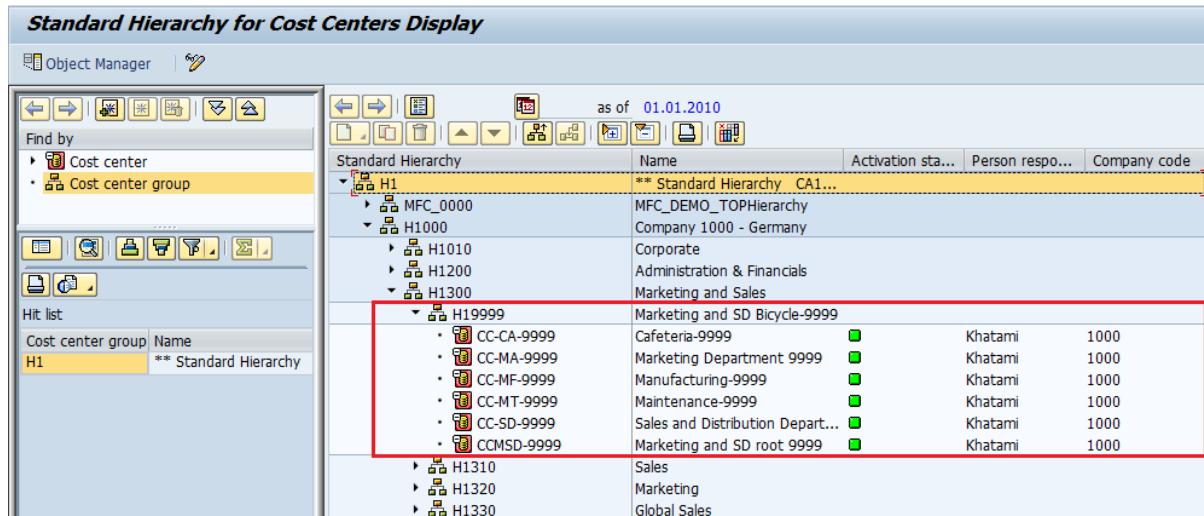


Figure 25: Cost Center Hierarchy with new Cost Centers: SAP-System-Screenshot

3.2.1.2 Statistical Key Figures

Now, create the required **statistical key figure** EMxxxx. In the Management Accounting case study, the EMxxxx key figure records the number of employees at the maintenance and manufacturing cost centers. At the same time, this is the basis for allocation of cafeteria costs (see subsequent explanation).

The costs of the cafeteria are supposed to be allocated to the **manufacturing-xxxx** and **maintenance-xxxx** cost centers. The number of employees is a reference (**tracing factor**) for cost allocation.

Therefore, create the following statistical key figure:

Accounting → Controlling → Cost Center Accounting → Master Data → Statistical Key Figures → Individual Processing → Create (KK01)

1. If a corresponding screen appears, enter **controlling area CO Europe (1000)**. Please note that you need to enter the controlling area in each query. It applies to the entire case study.
2. Enter **EMxxxx** into the **statistical key figure** field. Confirm with *Enter*.
3. In the new dialog, enter **name number of employees** and enter the statistical key figure unit **PC (piece)**. Select **key figure category fixed values**.

Create Statistical Key Figure: Master Data

Link to LIS

Stat. key figure: EM9999
Controlling area: 1000 CO Europe

Basic data

Name:	Number of Employees
Stat. key fig. UnM.:	PC
Key fig. cat.:	<input checked="" type="radio"/> Fxd val. <input type="radio"/> Tot. values

Note that this statistical key figure is of type fixed value, since the number of employees on the cost centers are not summed up and do not change often in time.

Figure 26: Statistical Key Figure Employee: SAP-System-Screenshot

- Save the statistical key figure.

3.2.1.3 Secondary Cost Elements

In the subsequent section, you create **secondary Cost Elements**. Allocation of internal costs and activity flows is always carried out by using secondary Cost Elements in SAP ERP. A cost element classifies the purpose-related and valued consumption of production factors within a controlling area. In contrast to primary Cost Elements, secondary Cost Elements do not have corresponding cost-relevant chart of account (P&L account with the same number). Please pay attention to the following discussion for further definitions (**relevant to the final SAP certification exam!**).

All costs that are supposed to be allocated (transferred within the company) are posted with reference to a secondary cost element in this case study. The value-based posting for direct allocations of individual activity quantities between cost centers is also carried out with reference to a secondary cost element. In this case study, you will use the secondary Cost Elements for the cafeteria allocation (CAF-xxxx) and for allocating maintenance and manufacturing hours (MNT-xxxx and MFT-xxxx).

Primary vs. Secondary Cost Elements:

As you already know, in overhead-cost management you distinguish between primary and secondary costs.

- Primary costs are costs for services received from (external) third parties (e.g., vendors).
- Secondary costs are costs for internally allocated services, i.e., activities allocated between cost centers.

For allocating primary and secondary costs, you need to store cost element master records in SAP ERP. They differ in their cost element categories, for example:

- internal settlement
- overhead rates
- assessment
- allocation of activities/processes

Primary costs must always correspond to a P&L account in the chart of accounts in financial accounting. The cost element master record is stored using the same number as for the corresponding P&L account.

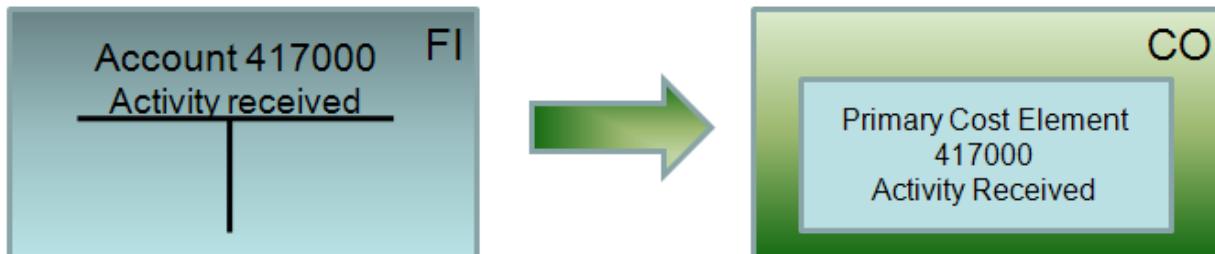


Figure 27: Primary Cost Element; HCC Magdeburg, Integrations-Fallstudie CO, 2006

Secondary Cost Elements concern internal allocations. They **must not** have a correspondent in financial accounting.

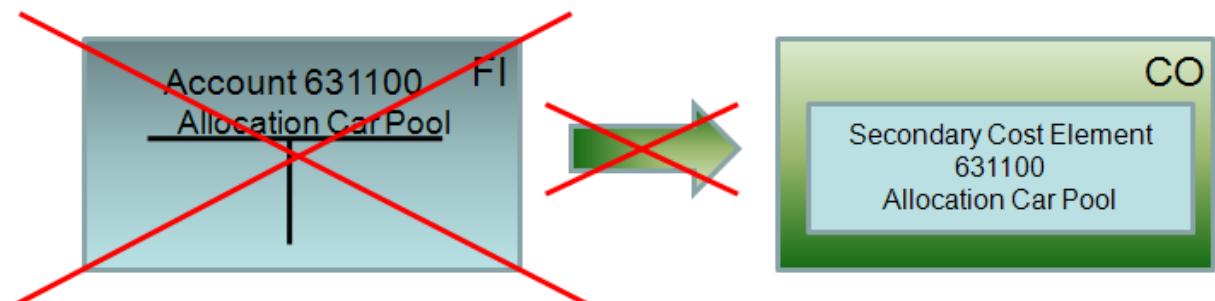


Figure 28: Secondary Cost Element; HCC Magdeburg, Integrations-Fallstudie CO, 2006

3.2.1.3.1 Cafeteria Assessment

Assessment is a method of internal cost allocation in which costs are apportioned from a sender cost center to receivers (cost centers, orders or projects) by using an assessment cost element. The costs are apportioned according to an allocation base (tracing factor) defined by the user. Assessment can be run for both plan and actual values.

The user can use the following allocation bases (tracing factors) to apportion the costs to the receivers:

- Amounts posted to the receivers (such as cost element values or statistical key figures). These values are defined in the "Receiver base".
- Fixed amounts (The user enters the amount debited to each receiver in the receiver rule.)
- Percentages (percentage for each receiver in the receiver rule)
- Portions (portions debited to each receiver defined in the receiver rule such as the square foot area of the cost centers)

The sender cost center is credited according to the receiver rule selected:

- fully credited (all costs of the sender)
- with an amount specified by the user
- all costs credited except for a residual percentage defined by the user

The apportioned costs are allocated using an assessment cost element. This means that the information of the original primary Cost Elements is lost. It is possible to group the Cost Elements (into personnel costs, for example) and assign them by using different assessment Cost Elements. The type of costs apportioned can then be seen on the receiver. However, system resource usage increases during assessment with the number of groups.

Choose the following transaction:

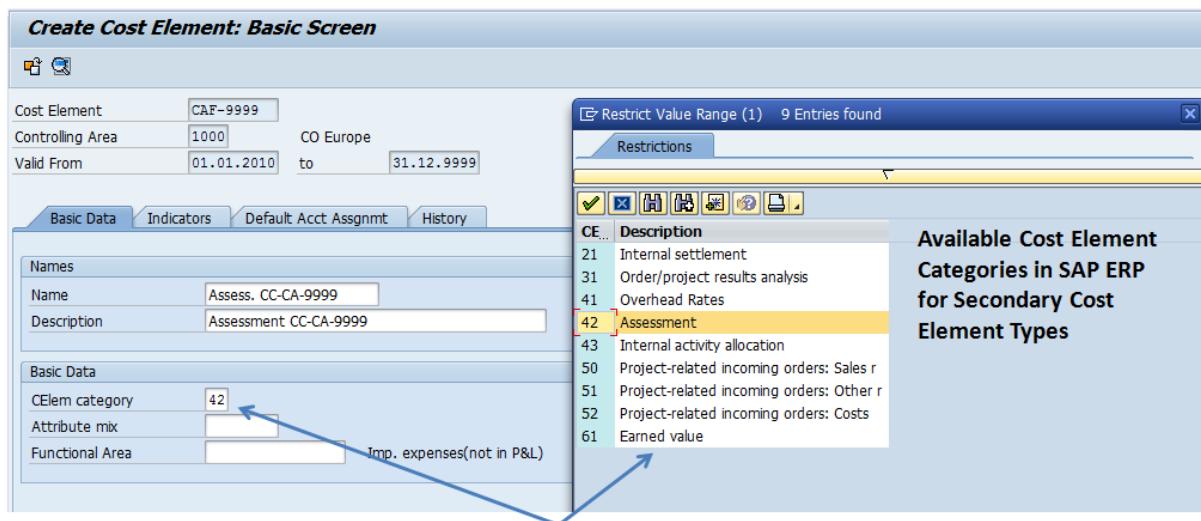
Accounting → Controlling → Cost Center Accounting → Master Data → Cost Elements → Individual Processing → Create Secondary (KA06)

1. Enter the following

- Cost element **CAF-xxyy**.
- Valid from **01.01. (!) of this fiscal year**
- Valid to **31.12.9999**
- Confirm with *Enter*.

2. Enter the following

- Name **Assess. CC-CA-xxyy**
- Description **Assessment CC-CA-xxyy**
- Cost element category **42 (Assessment)**



Cost Element Category:

The classification of cost elements according to their usage or origin. Examples of cost element categories are:

- Material cost elements
- Settlement cost elements for orders
- Cost elements for allocating internal activities

Figure 29: Create Secondary Cost Element Type for Assessment: SAP-System-Screenshot

3. Save your entries.

3.2.1.3.2 Activity Allocation of Maintenance Hours

Direct internal activity allocation is a method of tracing valued activities (allocation bases) from cost centers to the receivers responsible for the incurred costs.

The activities or allocation bases represent the quantity output of a cost center (production hours or machine hours, for example). This output is classified into activity types. The activity types are valued at prices that can either be set by the user manually or calculated by the system in an iterative price calculation function.

When costs are allocated, the quantity output by the sender cost center is valued with the activity price and credited to the sender cost center by using cost element category 43 and debited to the receiver (such as other cost centers, orders, or projects).

You are still on the **create Cost Elements: initial screen** (transaction code: **KA06**).

1. Enter the following
 - **Cost element** *MNT-xxyy.*
 - **Valid from** *01.01. (!) of this fiscal year*
 - **Valid to** *31.12.9999*
 - Confirm with *Enter*.
2. Enter the following
 - **Name** *Maintenance-All-xxyy*
 - **Description** *Maintenance-Allocation-xxyy*
 - **Cost element category** *43 (Internal activity allocation)*
3. *Save* your entries.

3.2.1.3.3 Activity Allocation of Manufacturing Hours

Again, enter your data on the **create Cost Elements: initial screen** (transaction code: **KA06**).

1. Enter the following
 - **Cost element** *MFT-xxyy.*
 - **Valid from** *01.01. (!) of this fiscal year*
 - **Valid to** *31.12.9999*
 - Confirm with *Enter*.
2. Enter the following
 - **Name** *Manufacture-All-xxyy*
 - **Description** *Manufacturing-Allocation-xxyy*
 - **Cost element category** *43 (Internal activity allocation)*
3. *Save* your entries.

3.2.1.4 Activity Types

Your next task includes the creation of **activity types** (cf. subsequent definition). There are two activity types used in this case study:

- MTxxyy: to allocate maintenance hours provided by the maintenance cost center. These are posted by using the secondary cost element MNT-xxyy.

- MFxxyy: to allocate manufacturing hours provided by the manufacturing cost center. These are posted by using the secondary cost element MFT-xyy.

This activity type is supposed to be provided by cost center CC-MT-xyy or CC-MF-xyy, respectively.

Definition: Activity Type

An activity type refers to a particular activity provided by a cost center (e.g., manufacturing hours, energy, reviewing hours, etc.). Activity types are always used if provided activities are entered on a quantitative basis and if they are supposed to be allocated individually.

Example:

The cost center “energy” measures the actual output in KWh and charges this amount to the receiver cost centers.

3.2.1.4.1 Maintenance Hours

To create the activity type, choose the following transaction:

Accounting → Controlling → Cost Center Accounting → Master Data → Activity Type → Individual Processing → Create (KL01)

1. Enter the following
 - **Activity Type** *MTxxyy*.
 - **Valid from** *01.01. (!) of this fiscal year*
 - **Valid to** *31.12.9999*
 - Confirm with *Enter*.
2. Enter the following
 - **Name** *Maintenance-xyy*
 - **Description** *Maintenance-hours-xyy*
 - **Activity Unit** *HR*
 - **CCtr categories** ** (all cost center types allowed)*
 - **ATyp category** *1 (**manual entry, manual allocation**)*
 - **allocation cost element** *MNT-xyy (Maintenance-hours-xyy)*
3. *Save* your entries.

The screenshot shows the SAP Create Activity Type: Basic Screen. At the top, the activity type is set to MT9999 and the cost center is Maintenance-9999. The allocation cost element is MNT-9999. A blue arrow points from this field to a note on the right side of the screen.

You specify that this activity (MTxxxx), which is produced by your Maintenance Cost Center is allocated using secondary cost element type MNT-xxxx

Allocation Cost Element

The **allocation cost element** is a **secondary cost element**, under which the activity type or business process is allocated.

You can store a **default value** in the master data of an activity type or a business process. You can overwrite the default value within planning if you are planning for the first time.

The allocation cost element must have been created in the cost element master data as a secondary cost element of **category 43 "Allocate activities/processes"**.

Figure 30: Create Activity Type for Direct Activity Allocation: SAP-System-Screenshot

3.2.1.4.2 Manufacturing Hours

To create the activity type:

Accounting → Controlling → Cost Center Accounting → Master Data → Activity Type → Individual Processing → Create (KL01))

1. Enter the following

- Activity Type	<i>MFxxxx</i>
- Valid from	<i>01.01. (!) of this fiscal year</i>
- Valid to	<i>31.12.9999</i>
- Confirm with <i>Enter</i> .	
2. Enter the following

- Name	<i>Manufacture-xxxx</i>
- Description	<i>Manufacturing-hours-xxxx</i>
- Activity Unit	<i>HR</i>
- CCtr categories	<i>* (all cost center types allowed)</i>
- ATyp category	<i>1 (manual entry, manual allocation)</i>
- allocation cost element	<i>MFT-xxxx (Manufacturing-hours-xxxx)</i>

3. Save your entries.

You, thus, have determined that the activity types maintenance hours and manufacturing hours, which you will later assign to the cost centers maintenance and manufacturing and which will later be used to allocate the provided activities of the corresponding cost center, are charged against the Cost Elements MNT-xxxx und MFT-xxxx.

3.2.1.4.3 Cost Center Group for Cafeteria Assessment

The last task in this section is to create the **cost center group** (see subsequent explanation). The cost centers maintenance and manufacturing are combined in the cost center group **Group-xxxx** within this case study. This group is the receiver object for the cafeteria assessment.

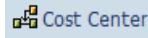
Cost center group:

A cost center group is an organizational unit to combine several cost centers according to specific criteria, e.g., hierarchy or type.

Cost center groups are, thus, a combination of several individual cost centers. The grouping of master data is frequently used in CO to facilitate mass-maintenance of master data, for generating grouping stages in documents, and to combine receivers of an allocation.

To carry out assessment of cafeteria costs, you need to combine the cost centers for manufacturing (CC-MF-xxxx) and for maintenance (CC-MT-xxxx) to a group. Therefore, choose the following transaction:

Accounting → Controlling → Cost Center Accounting → Master Data → Cost Center Group → Create (KSH1)

1. Enter **Group-xxxx** as **Cost Center Group** and confirm with *Enter*.
2. Enter **receiver of cafeteria costs** into the description field of the node **Group-xxxx**.
Click the  symbol (**insert cost center**). In the left column, enter your cost centers **CC-MT-xxxx** and **CC-MF-xxxx**.
3. Save with .

For comparison:

Compare your entries with the following figure.

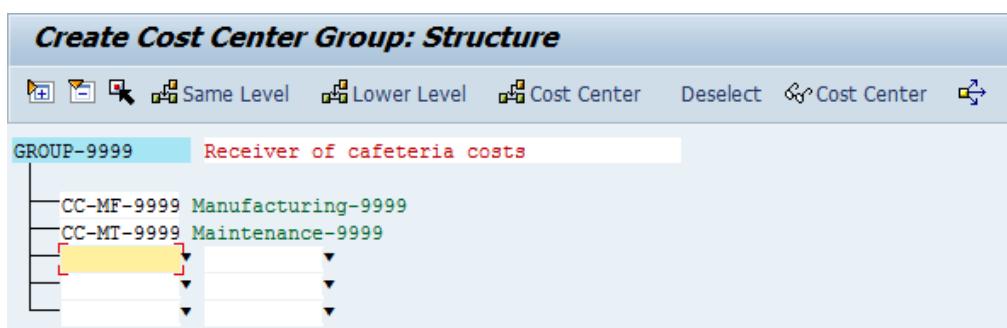


Figure 31: Create Cost Center Group: SAP-System-Screenshot

You now have created the structure for assessing the cafeteria costs later. At the time of cafeteria cost assessment, it is no longer required to enter individual cost receivers because the receiver is entered as the entire group. The allocation base is the number of employees of the corresponding cost centers.

3.2.2 Cost Center Accounting: Cost Center Planning

Next, you will carry out **cost center planning**. This task consists of several steps that are visualized in the following figure. In the previous sections, you created the basis for your cost allocation.

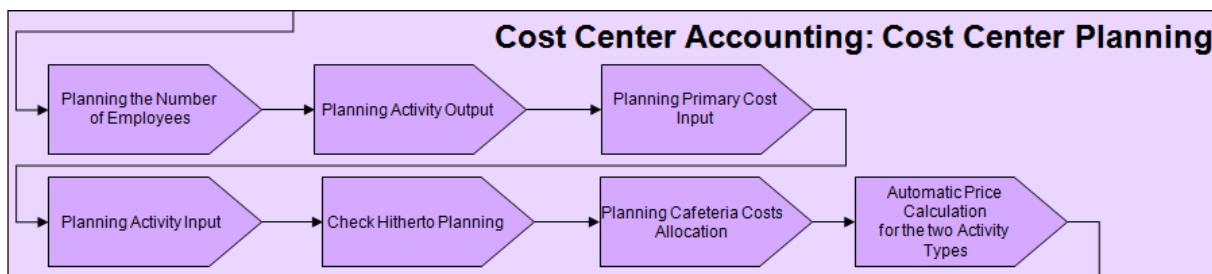


Figure 32: Process Overview: Cost Center Accounting - Planning

You have already created:

- the statistical key figure number of employees (**EMxxxx**) that you can use to assign the number of employees to the respective cost centers (manufacturing and maintenance) so that you can use this number as basis for cafeteria cost assessment
- the activity types **MFxxxx** and **MTxxxx** that are used to describe the provided activities of the two corresponding cost centers
- the secondary Cost Elements **MFT-xxxx** and **MNT-xxxx** that are used to allocate your activity types as well as the cost element **CAF-xxxx** to assess cafeteria costs
- the cost center group **Group-xxxx**, which is the cost receiver for the cafeteria costs and which contains the corresponding cost centers **CC-MF-xxxx** and **CC-MT-xxxx**

In the following sections, you will merge these components and fill the result with concrete numbers.

3.2.2.1 Planning the Number of Employees

The management and the marketing department predict sales of 15000 units of the Speedstarlett for the first fiscal year of its launch. To fulfill the management's demand, 20 new employees are hired for the manufacturing cost center. The maintenance cost center, which is not only in charge of maintaining manufacturing machines but is also supposed to support other business areas, will get five new employees. Cafeteria services are provided externally, i.e., via external procurement. Thus, the required employees are not considered in cost calculation and, therefore, not created in the system.

Before you continue, please make sure that the planner profile SAPALL was selected. Choose the following transaction:

Accounting → Controlling → Cost Center Accounting → Planning → Set Planner Profile (KP04)

Enter **Planner profile SAPALL**, click  **User master record** and confirm with the green check-mark.

Call up the following transaction to enter the employee numbers:

Accounting → Controlling → Cost Center Accounting → Planning → Statistical Key Figures → Change (KP46)

1. You can see the **statistical key figures standard** screen (1-301). Enter the following data:

- Version	<i>0 (planned/actual)</i>
- From period	<i>1</i>
- To period	<i>12</i>
- Fiscal year	<i>Current Year</i>
- Cost center	<i>CC-MF-xxyy</i>
- Stat. key figure	<i>EMxxyy (number of employees)</i>
- Ensure that all other fields are empty.	
2. Click the  symbol (**overview**) or press **F5**.
3. Enter the **current planned value 20** and post with . The system issues the confirmation "**changed data posted.**"
4. Repeat step 1 to 3 for cost center **CC-MT-xxyy**. Enter the **current planned value 5**. Post this planning as well.

3.2.2.2 Planning Activity Output

In this section, you will plan the total output of maintenance and manufacturing. The employees work 2000 hours a year each, i.e., the overall performance is 10000 hours (maintenance) and 40000 hours (manufacturing). Since cafeteria services are procured externally, there is no activity output planned.



*Pay attention to entering the correct **combinations** of activity type and cost centers in the following sections. Read the instructions carefully, since careless mistakes happen quite often at this point.*

Call up the following transaction:

Accounting → Controlling → Cost Center Accounting → Planning → Activity Output/Prices → Change (KP26)

1. You can see the **activity output/prices standard** screen (1-201). Enter the following data:

- Version	0 (planned/actual)
- From period	1
- To period	12
- Cost center	CC-MT-xxyy
- Activity type	MTxxyy.

- Again, please make sure that all other fields are empty.

2. Click the  symbol (**overview**) or press **F5**.
3. Enter **10000 hours** in the plan activity field. Post the planning ().
4. Repeat step 1 to 3 for **cost center CC-MF-xxyy** with **activity type MFxxyy**. This time, enter **40000 hours** in the **plan activity** field. Post the planning.

With this, you have determined how much of the specified activities the cost centers plan to provide.

3.2.2.3 Planning Primary Cost Input

All three cost centers cause primary costs. You have to plan these costs now.

The primary costs for the externally procured cafeteria services amount to 150000 EURO, the costs for salaries in maintenance amount to 150000 EURO and the manufacturing wages amount to 600000 EURO.

Cost Center Cafeteria	Cost Center Maintenance	Cost Center Manufacturing
External Procurement	Employees: 5 Output: 10.000 hrs.	Employees: 20 Output: 40.000 hrs.
Service: 150.000 €	Salaries: 150.000 €	Wages: 600.000 €

Figure 33: Overview Primary Cost Input



*Pay attention to entering the correct **combinations** of activity type, cost element, and cost centers in the following sections. Read the instructions carefully, since careless mistakes happen quite often at this point.*

Call up the following transaction:

Accounting → Controlling → Cost Centers → Planning → Costs/Activity Inputs → Change (KP06)

Cafeteria costs: You purchase the cafeteria service externally (outsourced)

1. Now you can see the **Cost Elements activity dependent/activity independent** screen (1-101). Enter the following data:
 - **Version** *0 (planned/actual)*
 - **From period** *1*
 - **To period** *12*
 - **Cost center** *CC-CA-xxyy*
 - **Cost element** *417000 (purchased services)*
 - Again, please make sure that all other fields are empty (first and foremost the activity type field).
2. Click the  symbol (**overview**) or press **F5**.
3. Enter **150000** into the **fixed planned costs column**. Post your entries ().

*Maintenance costs: You pay a combined 150.000 € **Salaries** to the 5 employees of the maintenance cost center. Note that you must not enter an activity type here, since the salaries are fixed.*

1. Enter the following data:
 - **Version** *0 (planned/actual)*
 - **From period** *1*
 - **To period** *12*
 - **Cost center** *CC-MT-xxyy*
 - **Cost element** *430000 (Salaries)*
 - Again, please make sure that all other fields are empty (first and foremost the activity type field).
2. Click the  symbol (**overview**) or press **F5**.
3. Enter **150000** into the **fixed planned costs column**. Post your entries ().



*By adding an activity type, primary cost input can be planned activity dependently in the following, i.e., with a fixed and a variable price. This is done, since you pay **Wages** to your employees of the production cost center manufacturing. Wages are paid on basis of the activity output. Correspondingly, the planned costs are variable.*

1. Enter the following data:
 - **Version** *0 (planned/actual)*
 - **From period** *1*
 - **To period** *12*
 - **Cost center** *CC-MF-xxyy*

- **Activity Type (!)** *MFxxyy*
 - **Cost element** *420000 (Direct Labor Costs)*
 - Again, please make sure that all other fields are empty
2. Click the symbol (**overview**) or press **F5**.
 3. Enter **planned variable costs** of **600000**. Post your entries ().

3.2.2.4 Planning Activity Input

The manufacturing department (manufacturing cost center) plans to let the internal maintenance team (maintenance cost center) regularly check their machines in the current fiscal year. You calculate 1000 working hours.

The hourly price has not been determined, yet. That is, you do not know how much an activity of type maintenance (MTxxyy) allocated with the cost element type (MNT-xxyy) costs. This will be carried out later.

You could calculate the activity cost as $150000\text{€}/10000 \text{ hours} = 15\text{€}/\text{hour}$ at this point, but that would not account for the cafeteria costs that the maintenance cost center will have to pay, too.

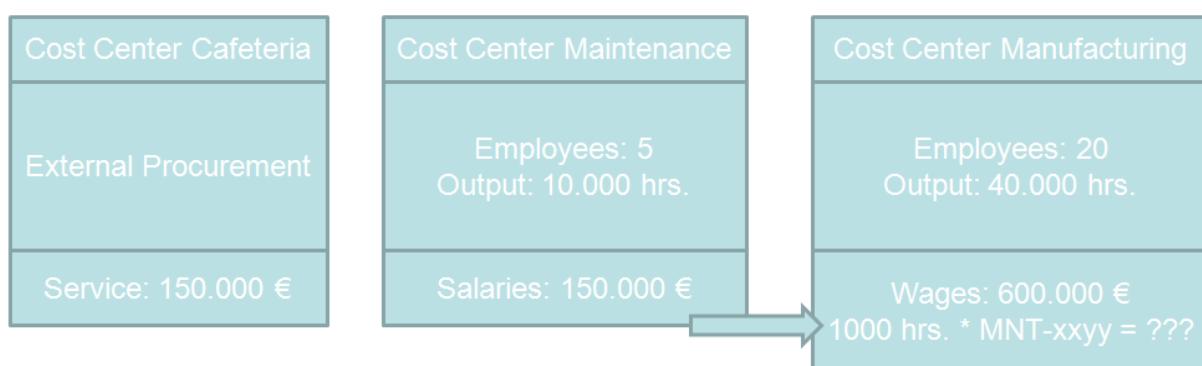


Figure 34: Overview Activity Input



*Pay attention to entering the correct **combinations** of activity type, cost element and cost centers in the following sections. Read the instructions carefully, since careless mistakes happen quite often at this point.*

To plan this scenario, call up the following transaction:

Accounting → Controlling → Cost Centers → Planning → Costs/Activity Inputs → Change (KP06)

1. Now you can see the **Cost Elements activity dependent/activity independent** screen (**1-101**). Since this layout applies only to Cost Elements, go to the next screen. Therefore, click the symbol.
2. You are now on the **activity input activity dependent/ activity independent** screen (**1-102**). Enter the following data:
 - **Version** *0 (planned/actual)*

- **From period** *I*
- **To period** *12*
- **Cost Center** *CC-MF-xxyy*
- **Sender Cost Center** *CC-MT-xxyy*
- **Sender Activity Type** *MTxxyy*
- Again, please make sure that all other fields are empty (**All other fields must be empty!!!**)

3. Click the  symbol (overview) or press **F5**.

4. Enter a **plan fixed consumption** of **1000** hours. Post your entries ().

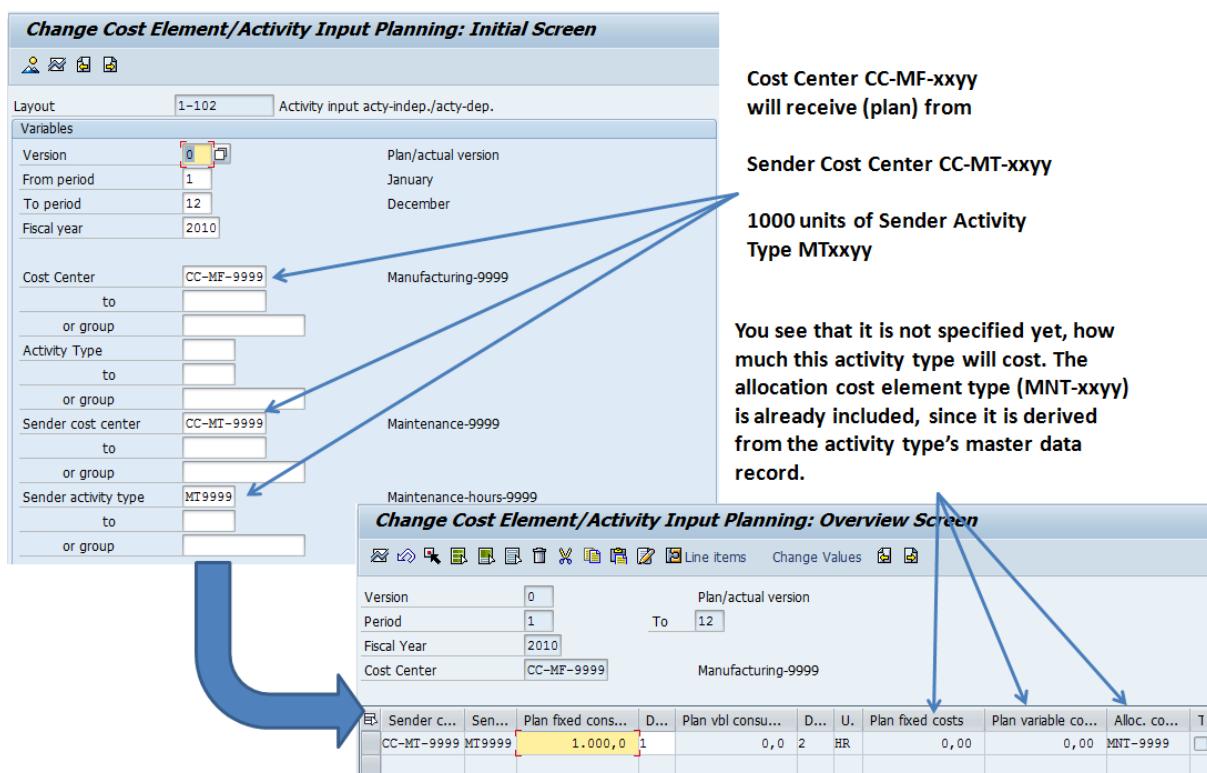


Figure 35: Plan Activity Input for Cost Center Manufacturing: SAP-System-Screenshot

3.2.2.5 Check Hitherto Planning

Call up the following transaction:

Accounting → Controlling → Cost Center Accounting → Information System → Reports for Cost Center Accounting → Planning Reports → Cost Centers: Planning Overview (KSBL)

Check the three cost centers (**CC-CA-xxyy**, **CC-MT-xxyy**, and **CC-MF-xxyy**) by clicking the  symbol or by pressing **F8**. Leave each report with **end** (**Shift+F3**).



If your cost center overviews differ from the figures below, contact your tutor immediately and do not carry out the following steps, since it might cause errors

for further processing of the case studies! Note that each highlighted entry should be exactly at its place

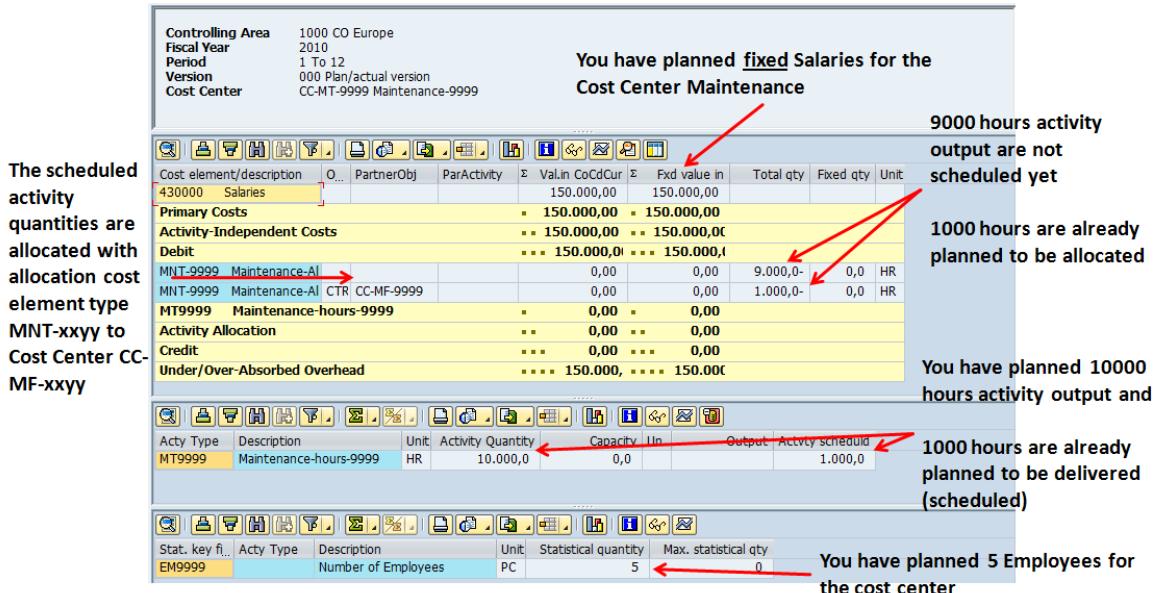


Figure 36: Planning Overview Cost Center Maintenance: SAP-System-Screenshot

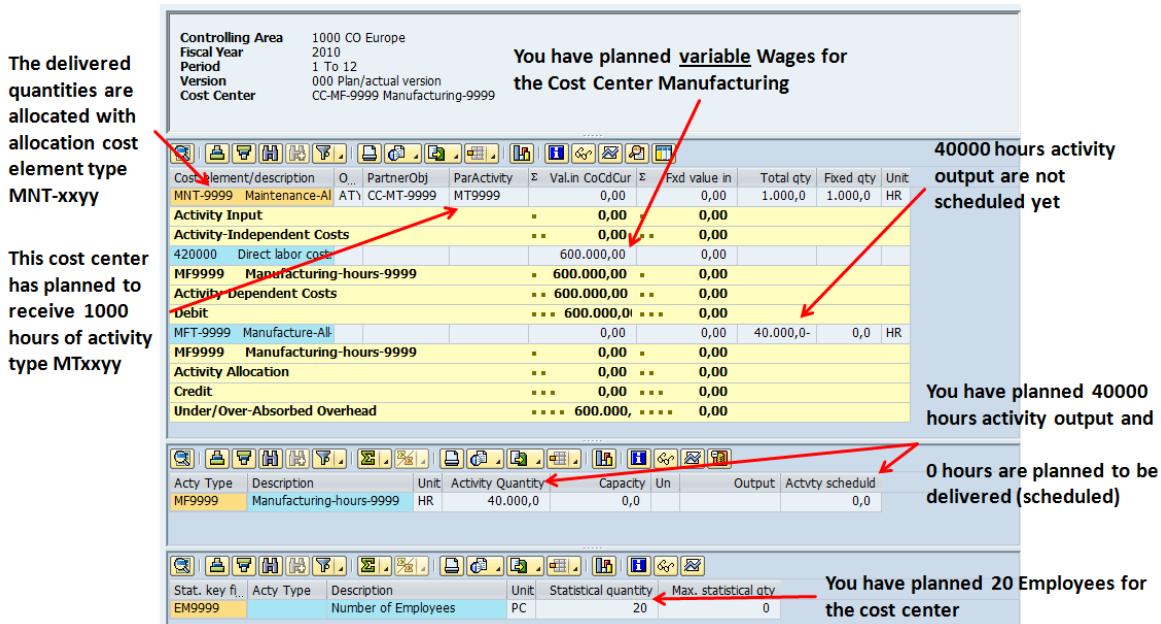


Figure 37: Planning Overview Cost Center Manufacturing: SAP-System-Screenshot

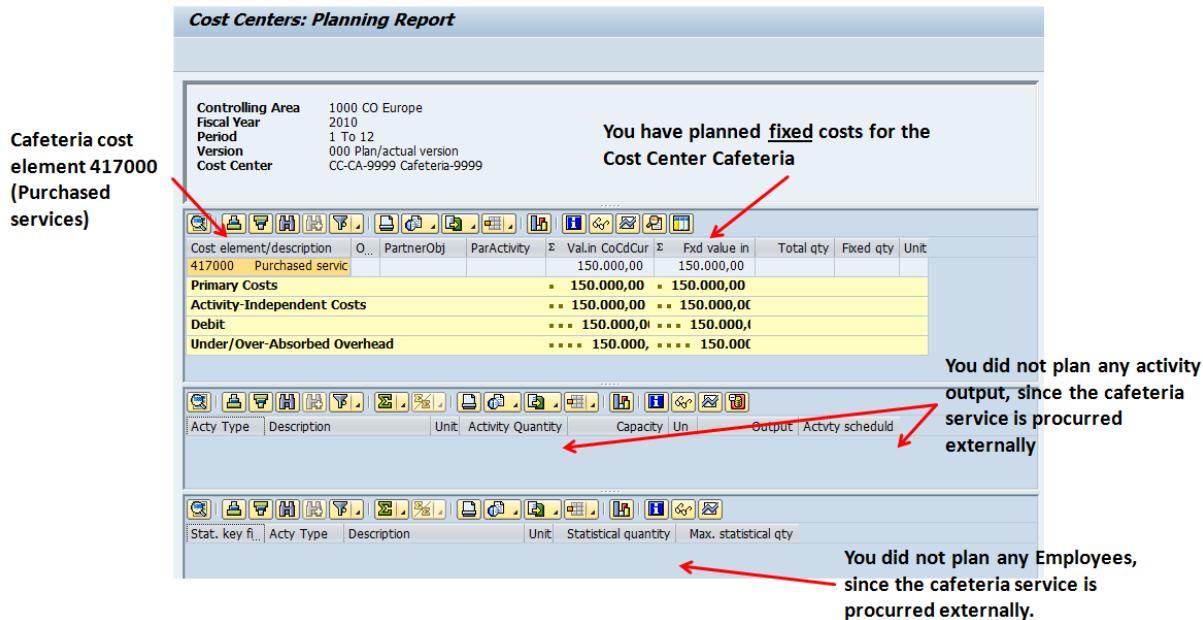


Figure 38: Planning Overview Cost Center Cafeteria: SAP-System-Screenshot

3.2.2.6 Planning Cafeteria Costs Allocation

Next, you will allocate the cafeteria costs to the individual cost centers according to their number of employees (since they use the cafeteria service). Thus, the number of employees per receiving cost center is the *Tracing Factor*.

The cafeteria costs must be allocated to two cost centers at a ratio of five (maintenance) to 20 (manufacturing), since the tracing factor is the number of employees per cost center.

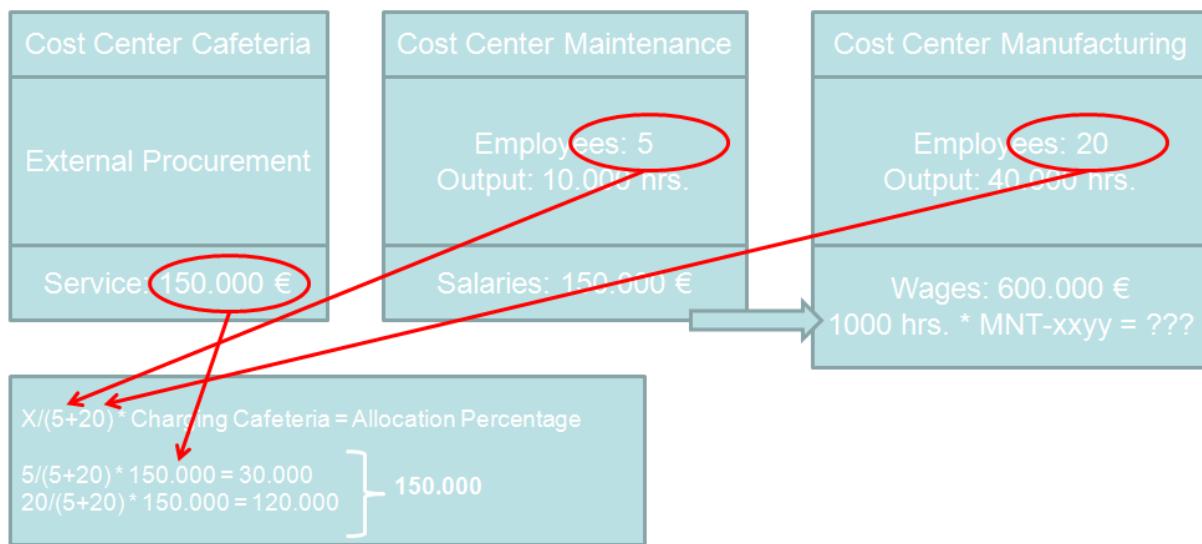


Figure 39: Overview Cafeteria Assessment

3.2.2.6.1 Create Cafeteria Assessment

Call up the following transaction:

Accounting → Controlling → Cost Center Accounting → Planning → Allocations → Assessment (KSUB)

1. Select **Extras → Cycle → Create** from the menu bar. Enter the following data:
 - Cycle CYxxyy
 - Start Date 01.01. of the current year
 - Press Enter.
2. Enter text **assessment-cycle-CC-CA-xxyy** and click the **Attach segment** symbol.
3. Enter **segment name SEGM-xxyy** and **description Segment-xxyy**.
4. In the **segment header tab**, enter **CAF-xxyy** in the field **Assessment CEle**.

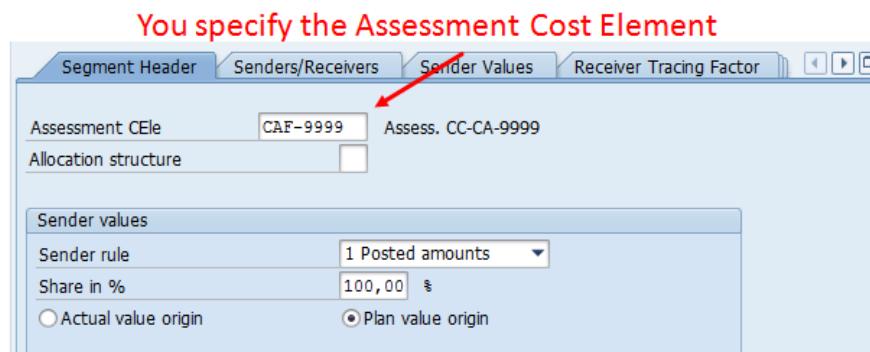
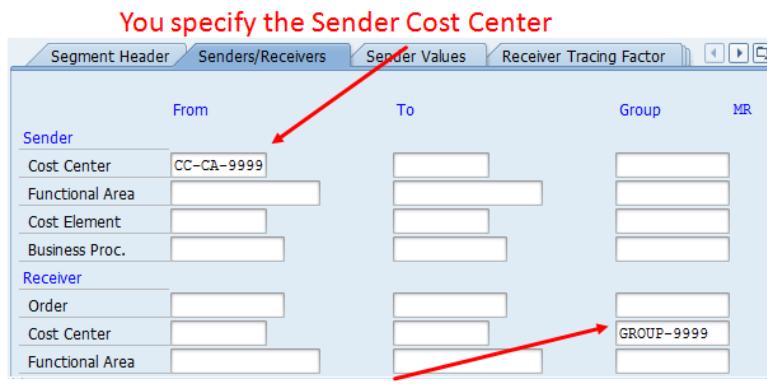


Figure 40: Assessment Cost Element: SAP-System-Screenshot

5. Go to the **sender/receiver tab**. For the **sender**, enter in the **cost center** row and in the **from** column the value **CC-CA-xxyy**. For the **receiver**, enter in the **cost center** row and in the **group** column the created **Group-xxyy**.



You specify the Receiver Cost Objects by entering your Group

Figure 41: Sender and Receiver: SAP-System-Screenshot

6. Select the **receiver tracing factor** tab. Select **6 Plan Stat. Key Figures** from the **variable portion type** field. Confirm the following request with **Enter**. Enter **version planned/actual (0)** and in the **statistical key figure** row and the column **From EMx-xxyy**.

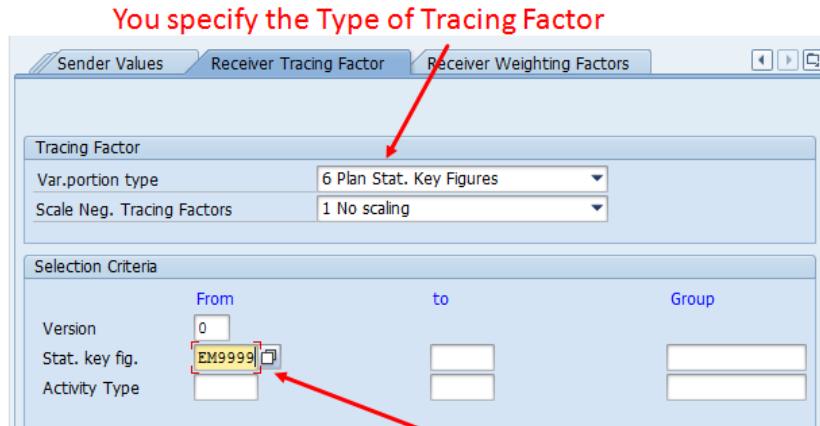
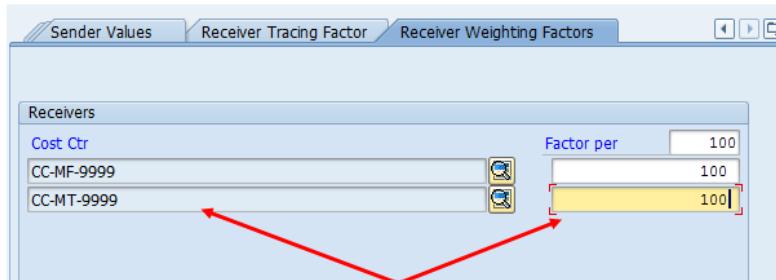


Figure 42: Tracing Factor: SAP-System-Screenshot

7. All members of the Group are presented in tab „Receiver Weighting Factors“.



All members of the Group are presented in tab „Receiver Weighting Factors“. You can additionally specify different Weighting Factors here.

Figure 43: Weighting Factors: SAP-System-Screenshot

8. Save your entries.
9. Choose **GoTo → cycle run group** and then press .
10. Enter Cycle run group **xxyy** and enter the text **Group xxyy** in behind.
11. Confirm with **Enter twice**.
12. Return to the initial screen of transaction KSUB. **Confirm** all system requests.



If you get a Customizing-Order Request with no entry in the Order field, press , enter any description text and save. Then you can confirm the Request.

3.2.2.6.2 Performing Assessment for Cafeteria Costs

In case you already left the previous screen, call up transaction **KSUB** again.

1. Now, you can see the **Execute Plan Assessment: Initial screen**. Enter the following data:
- Period from **01**

- **Period to** 12
- **Fiscal Year** current year
- Enter in the first line in the cycle field the **cycle CYxxyy**
- deselect **test run**

2. Click the  button or press **F8**. The system executes the assessment.



At this point, an error notification might occur due to system capacity. In this case, try the operation again later.

3. The system notifies you that the operation was completed without errors. The **number of senders** should be **one** and the **number of receivers** should be **two**. You can check the way the costs were allocated by using the Sender and Receiver buttons. Leave the transaction.

Display CCA: Plan Assessment Basic List							
<input type="button" value="Basic list"/> <input type="button" value="Segments"/> <input type="button" value="Sender"/> <input type="button" value="Receiver"/> <input type="button" value="Tracing"/>							
Controlling Area	1000	Version	0	Period	001 To 012		
Fiscal Year	2010	Value date	01.01.1998	Exchange Rate Type	M	Standard translation at average rate	
Document Number	30975	Processing status	UpdateRun				
Processing completed without errors							
Cycle	Start Date	Text		Senders	Number of receivers	No. of messages	
CY9999	01.01.2010	assessment-cycle-CC-CA-9999		I	1	2	0

Display CCA: Plan Assessment Sender List						
<input type="button" value="Basic list"/> <input type="button" value="Segments"/> <input type="button" value="Receiver"/> <input type="button" value="Tracing"/>						
Cycle	CY9999	assessment-cycle-CC-CA-9999				
Start Date	01.01.2010					
Period	001 To 012					
Invalid	Period	Cost Ctr	Cost Elen.	CO Area	Currency	COCr
		1 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	1			12.500,-	EUR	25.000
*	2	2 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	3	3 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	4	4 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	5	5 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	6	6 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	7	7 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	8	8 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	9	9 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	10	10 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	11	11 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
*	12	12 CC-CA-9999 CAF-9999		12.500,-	EUR	25.000
**				150.000,00	EUR	

Display CCA: Plan Assessment Receiver List						
<input type="button" value="Basic list"/> <input type="button" value="Segments"/> <input type="button" value="Sender"/> <input type="button" value="Tracing"/>						
Cycle	CY9999	assessment-cycle-CC-CA-9999				
Start Date	01.01.2010					
Period	001 To 012					
Invalid	Period	Cost Ctr	Cost Elen.	CO Area	Currency	COCr
		1 CC-MF-9999 CAF-9999		10.000,00	EUR	20.000
*	1	1 CC-MT-9999 CAF-9999		2.500,00	EUR	5.000
*	2	2 CC-MF-9999 CAF-9999		12.500,00	EUR	20.000
*	3	3 CC-MT-9999 CAF-9999		2.500,00	EUR	5.000
*	4	4 CC-MF-9999 CAF-9999		12.500,00	EUR	20.000
*	5	5 CC-MF-9999 CAF-9999		10.000,00	EUR	20.000
*	6	6 CC-MT-9999 CAF-9999		2.500,00	EUR	5.000
*	7	7 CC-MF-9999 CAF-9999		12.500,00	EUR	20.000
*	8	8 CC-MF-9999 CAF-9999		10.000,00	EUR	20.000
*	9	9 CC-MT-9999 CAF-9999		2.500,00	EUR	5.000
*	10	10 CC-MF-9999 CAF-9999		12.500,00	EUR	20.000
*	11	11 CC-MT-9999 CAF-9999		2.500,00	EUR	5.000
*	12	12 CC-MT-9999 CAF-9999		10.000,00	EUR	20.000
**				150.000,00	EUR	

Figure 44: Sender and Receiver Cost Allocation: SAP-System-Screenshot

3.2.2.6.3 Check Effects of the Assessment

Next, check the effects of the assessments on the three cost centers in the following transaction that you are already familiar with:

Accounting → Controlling → Cost Center Accounting → Information System → Reports for Cost Center Accounting → Planning Reports → Cost Centers: Planning Overview (KSBL)

Carry out the report for the three **cost centers CC-MF-xxyy, CC-MT-xxyy** and **CC-CA-xxyy**. Each time, enter **version planned/actual (0)**.



Caution

If your cost center overviews differ from the figures below, contact your tutor immediately and do not carry out the following steps, since it might cause errors for further processing of the case studies! Note that each highlighted entry should be exactly at its place.

You can see that the maintenance cost center was debited with 30000 EUR and the manufacturing cost center was debited with 120000 EUR by the cafeteria assessment. Contrastingly, the cafeteria cost center was balanced.

Cafeteria costs are allocated with secondary cost element CAF-xxyy

Controlling Area		1000 CO Europe	The Manufacturing Cost Center receives 120000 € of the Cafeteria costs							
Fiscal Year		2010								
Period		1 To 12								
Version		000 Plan/actual version								
Cost Center		CC-MF-9999 Manufacturing-9999								
		Assessment	CAF-9999 Assess. CC-CA-9	CTR CC-CA-9999	120.000,00	120.000,00				
		Activity Input			0,00	0,00	1.000,0	1.000,0	HR	
		Activity-Independent Costs			120.000,00	120.000,00				
		420000 Direct labor cost			600.000,00	0,00				
		MF9999 Manufacturing-hours-9999			600.000,00	0,00				
		Activity-Dependent Costs			600.000,00	0,00				
		Debit			720.000,00	120.000,00				
		MFT-9999 Manufacture-All			0,00	0,00	40.000,0-	0,0	HR	
		MF9999 Manufacturing-hours-9999			0,00	0,00				
		Activity Allocation			0,00	0,00				
		Credit			0,00	0,00				
		Under/Over-Absorbed Overhead			720.000,00	120.000,00				

Total debit is now 720000 € for the cost center

Figure 45: Planning Overview Cost Center Manufacturing: SAP-System-Screenshot

Cafeteria costs
are allocated
with secondary
cost element
CAF-xxxx

Controlling Area	1000 CO Europe	The Maintenance Cost Center receives 30000 € of the Cafeteria costs									
Fiscal Year	2010										
Period	1 To 12										
Version	000 Plan/actual version										
Cost Center	CC-MT-9999 Maintenance-9999										
Cost element/description	O...	PartnerObj	ParActivity	Σ Val.in CoCdCur	Σ Fxd value in	Total qty	Fixed qty	Unit			
430000 Salaries				150.000,00	150.000,00						
Primary Costs				150.000,00	150.000,00						
CAF-9999 Assess. CC-CA-9 CTR CC-CA-9999				30.000,00	30.000,00						
Assessment				30.000,00	30.000,00						
Activity-Independent Costs				180.000,00	180.000,00						
Debit				180.000,00	180.000,00						
MNT-9999 Maintenance-Al				0,00	0,00	9.000,-	0,0	HR			
MNT-9999 Maintenance-Al CTR CC-MF-9999				0,00	0,00	1.000,-	0,0	HR			
MT9999 Maintenance-hours-9999				0,00	0,00						
Activity Allocation				0,00	0,00						
Credit				0,00	0,00						
Under/Over-Absorbed Overhead				180.000,	180.000,						

Figure 46: Planning Overview Cost Center Maintenance: SAP-System-Screenshot

Cafeteria costs
are allocated
with secondary
cost element
CAF-xxxx

Controlling Area	1000 CO Europe	The Cafeteria Cost Center allocates all 150000 € to the other cost centers									
Fiscal Year	2010										
Period	1 To 12										
Version	000 Plan/actual version										
Cost Center	CC-CA-9999 Cafeteria-9999										
Cost element/description	O...	PartnerObj	ParActivity	Σ Val.in CoCdCur	Σ Fxd value in	Total qty	Fixed qty	Unit			
417000 Purchased servic				150.000,00	150.000,00						
Primary Costs				150.000,00	150.000,00						
Activity-Independent Costs				150.000,00	150.000,00						
Debit				150.000,00	150.000,00						
CAF-9999 Assess. CC-CA-9 CTR CC-MF-9999				120.000,-	120.000,-						
CAF-9999 Assess. CC-CA-9 CTR CC-MT-9999				30.000,-	30.000,-						
				150.000,00	150.000,00						
Assessment				150.000,00	150.000,00						
Credit				150.000,00	150.000,00						
Under/Over-Absorbed Overhead				0,00	0,00						

Figure 47: Planning Overview Cost Center Cafeteria: SAP-System-Screenshot

You will note that **activity inputs** and **activity allocations** are still valued with zero €, although quantities were specified. The reason for this is that prices for the corresponding activity types have not been planned (calculated) yet. This is the next step.

3.2.2.7 Automatic Price Calculation for the two Activity Types

Automatic price calculation is next. Please pay attention to the correct development of prices in your company.

Cost Center Cafeteria	Cost Center Maintenance	Cost Center Manufacturing
External Procurement	Employees: 5 Output: 10.000 hrs.	Employees: 20 Output: 40.000 hrs.
Service: 150.000 € Sum of Charges: 150.000 €	Salaries: 150.000 € Allocation: 30.000 € Sum of Charges: 180.000 €	Wages: 600.000 € 1000 hrs. * 18 € = 18.000 € Allocation: 120.000 €
Allocation: 150.000 € Sum of Discharge: 150.000 €	Charging: 180.000 € Sum of Discharge: 180.000 €	
Balance: 0 €	Balance: 0 €	

Sum of Charges / Output → 180.000 € / 10.000 hrs. = 18 €/hrs.
To achieve a discharging of 180.000 € for the cost center Maintenance, the internal charge rate for the maintenance hours have to be 18 €.
Thus, the 1000 hrs. Service delivered to the Manufacturing cost center is billed with 18.000 €.

Figure 48: Overview Price Calculation for Activity Types

3.2.2.7.1 Check the current Planned Activity Prices

First of all, check the current activity prices. Call up the following transaction:

Accounting → Controlling → Cost Center Accounting → Planning → Activity Output/Prices → Change (KP26)

1. You can see the **activity output/prices standard** screen (**1-201**). Enter the following data:

- Version	0 (planned/actual)
- From period	1
- To period	12
- Fiscal Year	current year
- Cost center	CC-MT-xxyy / CC-MF-xxyy
- Activity type	MTxxyy / MFxxyy
- Again, please make sure that all other fields are empty.	
2. Click the  symbol (**overview**) or press **F5**.
3. You see that the prices (fixed and variable part of the price) are not specified yet. You could plan the prices manually in this transaction, but we will rather let the system do this. Make sure that the pricing unit is set to **00001** for both activity types.

Change Activity Type/Price Planning: Overview Screen

Activity	Plan activity	Capacity	U.	Fixed price	Variable price	Price unit	P..	P	A	Alloc. co...	Equ...
MT9999	10.000,0	1		1 HR		00001	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MNT-9999	1

Change Activity Type/Price Planning: Overview Screen

Activity	Plan activity	Capacity	U.	Fixed price	Variable price	Price unit	P..	P	A	Alloc. co...	Equ...
MF9999	40.000,0	1		1 HR		00001	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MFT-9999	1

Figure 49: Planned Prices for Activities: SAP-System-Screenshot

- Leave the transaction.

3.2.2.7.2 Execute Price Calculation

To let the system execute automatic price calculation, call up the following transaction:

Accounting → Controlling → Cost Center Accounting → Planning → Allocations → Price calculation (KSPI)

- Complete the following:
 - Select the radio button **Cost center group**
 - Enter **Group-xxyy**
 - Select **no business processes**
 - Version** *0 (planned/actual)*
 - From period** *1*
 - To period** *12*
 - Fiscal Year** *current year*
 - Deselect **Test run**.
 - Press **Execute**. The system now posts the price calculation.
- After successful calculation, the request **concerning successful completion** appears. Confirm it with **Enter**. A basic list with prices is displayed. List the prices determined by the system for the activity types.

Total price for CC-MF-xxyy and activity type MFxxyy: _____

Total price for CC-MT-xxyy and activity type MTxxyy: _____



You might get ridiculously high activity prices. Pay attention to the price unit used by the system. The system tends to change the price unit sometimes. However, this is not an error.

Note

3.2.2.7.3 Check the new Planned Activity Prices

Again, check the activity prices. Call up the following transaction:

The automatically calculated prices are transferred to the planning data of the cost center.

Accounting → Controlling → Cost Center Accounting → Planning → Activity Output/Prices → Change (KP26)

1. You can see the **activity output/prices standard** screen (**1-201**). Enter the following data:

- Version	<i>0 (planned/actual)</i>
- From period	<i>1</i>
- To period	<i>12</i>
- Fiscal Year	<i>current year</i>
- Cost center	<i>CC-MT-xxyy / CC-MF-xxyy</i>
- Activity type	<i>MTxxyy / MFxxyy</i>
- Again, please make sure that all other fields are empty.	
2. Click the  symbol (**overview**) or press **F5**.
3. You see that the prices (fixed and variable part of the price) have been updated. Probably you also got a new pricing unit.
4. You also see that the manufacturing price consists of a variable price and a fixed price part, whereas the maintenance price is only fixed. At this point, you must consider that the maintenance cost center only had fixed costs assigned.
5. In the **price unit** column, you can find the unit that the price refers to. 00001 means that a unit was calculated at a price of 18.45 €. If your entry is, for example, 00010, then the system calculated the priced based on 10 units, resulting in an overall price 184.50 €, etc. The amount of the price unit is not crucial, since it only results in marginal rounding errors. You can change the price unit manually, but consider that in that case you also have to adjust the price amount manually by the same factor.

Change Activity Type/Price Planning: Overview Screen

Version 0 Plan/actual version
Period 1 To 12
Fiscal Year 2010
Cost Center CC-MF-9999 Manufacturing-9999

Acti...	Plan activity	D...	Capacity	D...	U.	Fixed price	Variable ...	Pric...	P..	P	A	Alloc. co...
MF9999	40.000,0	1		1	HR	3,45	15,00	00001	1	<input type="checkbox"/>	<input type="checkbox"/>	MFT-9999

New planned prices with pricing unit 1 as basis

Change Activity Type/Price Planning: Overview Screen

Version 0 Plan/actual version
Period 1 To 12
Fiscal Year 2010
Cost Center CC-MT-9999 Maintenance-9999

Acti...	Plan activity	D...	Capacity	D...	U.	Fixed price	Variable ...	Pric...	P..	P	A	Alloc. co...
MT9999	10.000,0	1		1	HR	18,00	00001	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MNT-9999

Figure 50: New Planned Prices: SAP-System-Screenshot

6. Leave the transaction.

3.2.2.7.4 Check Effects on Planning

You can display the effects of the price calculation for Maintenance and Manufacturing cost centers by using transaction **KSBL**.

You see that the activity output of the cost centers is now valued with the calculated activity price and, thus, the activity price is considered in the planning. Also note that the planned Total Costs of the cost centers is now Zero, since the planning assumes that all activity quantities planned will be provided and, thus, the costs will be allocated to other cost centers.

Important: This far, we only have planned costs. We did not post any actual costs yet.

Controlling Area	1000 CO Europe
Fiscal Year	2010
Period	1 To 12
Version	000 Plan/actual version
Cost Center	CC-MT-9999 Maintenance-9999

Cost element/description	O...	PartnerObj	ParActivity	Σ Val.in CoCdCur	Σ Fxd value in	Total qty	Fixed qty	Unit
430000 Salaries				150.000,00	150.000,00			
Primary Costs				150.000,00	150.000,00			
CAF-9999 Assess. CC-CA-9 CTR CC-CA-9999				30.000,00	30.000,00			
Assessment				30.000,00	30.000,00			
Activity-Independent Costs				180.000,00	180.000,00			
Debit				180.000,00	180.000,00			
MNT-9999 Maintenance-Al				162.000,00-	162.000,00-	9.000,0-	0,0	HR
MNT-9999 Maintenance-Al CTR CC-MF-9999				17.999,96-	17.999,96-	1.000,0-	0,0	HR
MT9999 Maintenance-hours-9999				179.999,96-	179.999,96-			
Activity Allocation				179.999,96-	179.999,96-			
Credit				179.999,96-	179.999,96-			
Under/Over-Absorbed Overhead				0,04	0,04			

Figure 51: Effect of Price Calculation (1): SAP-System-Screenshot

Controlling Area	1000 CO Europe
Fiscal Year	2010
Period	1 To 12
Version	000 Plan/actual version
Cost Center	CC-MT-9999 Manufacturing-9999

Cost element/description	O...	PartnerObj	ParActivity	Σ Val.in CoCdCur	Σ Fxd value in	Total qty	Fixed qty	Unit
CAF-9999 Assess. CC-CA-9 CTR CC-CA-9999				120.000,00	120.000,00			
Assessment				120.000,00	120.000,00			
MNT-9999 Maintenance-Al ATY CC-MT-9999 MT9999				17.999,96	17.999,96	1.000,0	1.000,0	HR
Activity Input				17.999,96	17.999,96			
Activity-Independent Costs				137.999,96	137.999,96			
420000 Direct labor cost:				600.000,00	0,00			
MF9999 Manufacturing-hours-9999				600.000,00	0,00			
Activity-Dependent Costs				600.000,00	0,00			
Debit				737.999,96	137.999,-			
MFT-9999 Manufacture-All:				737.999,96-	138.000,00-	40.000,0-	0,0	HR
MF9999 Manufacturing-hours-9999				737.999,96-	138.000,00-			
Activity Allocation				737.999,96-	138.000,00-			
Credit				737.999,96-	138.000,00-			
Under/Over-Absorbed Overhead				0,00	0,04-			

Figure 52: Effect of Price Calculation (2): SAP-System-Screenshot

3.2.3 Cost Center Accounting: Manual Actual Posting

You have only planned costs and planned to allocate activities for your cost center, so far. Therefore, the calculated prices are also planned prices. After you have successfully completed cost center planning for the current year, enter now the actually occurred costs at the cost centers. That is, you will now post real costs and activities.

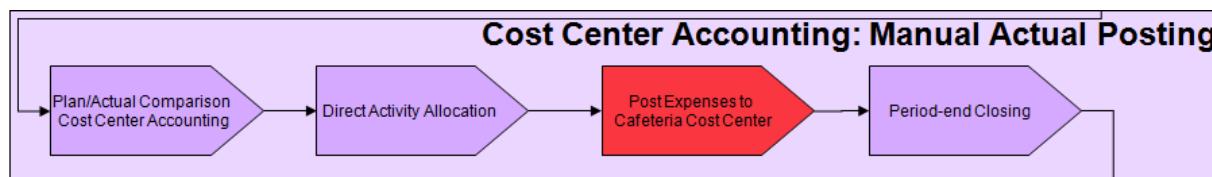


Figure 53: Process Overview: Cost Center Accounting: Manual Actual Posting

3.2.3.1 Plan/Actual Comparison Cost Center Accounting

Now, carry out a cost report to recall the planning data for your cost center group. Therefore, choose

Accounting → Controlling → Cost Center Accounting → Information System → Reports for Cost Center Accounting → Plan/Actual Comparisons → Cost Centers: Actual/Plan/Variance (S_ALR_87013611)

1. Enter the following data:

- Controlling area	1000
- Fiscal year	current fiscal year
- From period	1
- To period	12
- Plan version	0
- Cost center group	Group-xxyy

2. Choose *Execute*.
3. The planned costs at both cost centers that are part of cost center group group-xxyy are displayed. Until now, no actual costs incurred.

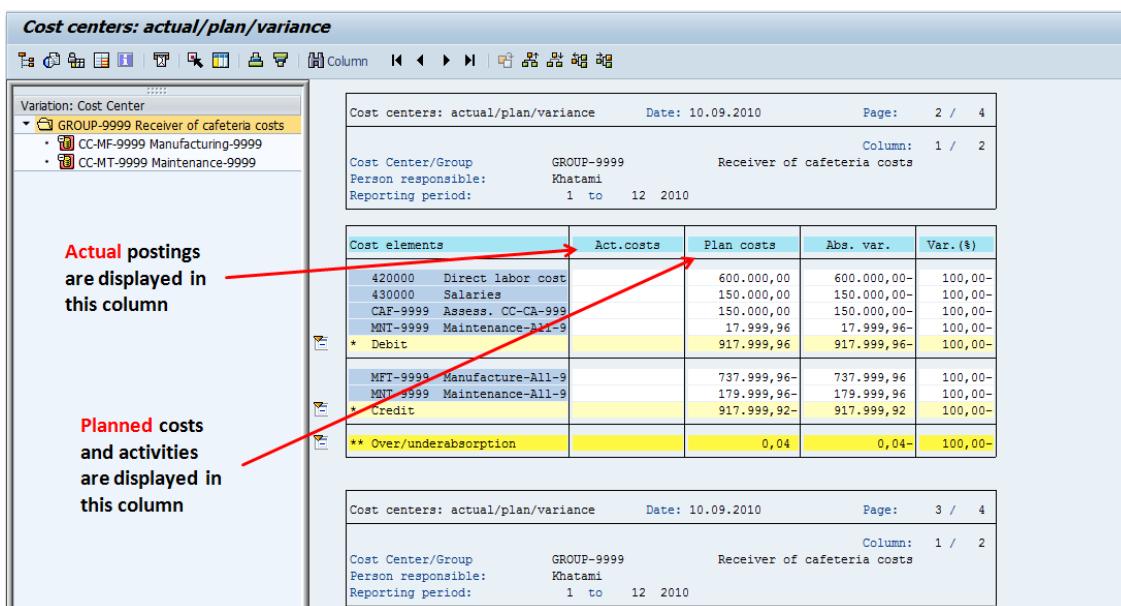


Figure 54: Plan/Actual Comparison Cost Center Accounting (1): SAP-System-Screenshot

4. Leave the cost report.

3.2.3.2 Direct Activity Allocation

Some works were already carried out in the current period. The maintenance center worked 200 hours for maintaining machines of the manufacturing cost center. Post the 200 hours that the maintenance cost center worked for the manufacturing cost center. Since it is a simple and direct cost allocation, you can use the transaction-based, direct, manual method Direct Activity Allocation. Therefore, choose

Accounting → Controlling → Cost Centers → Actual Postings → Activity Allocation → Enter (KB21N)

1. In case you are prompted to do so, enter controlling area **1000**.
2. Enter the following data:

- Document date	<i>today</i>
- Posting date	<i>today</i>
- Version	<i>0</i>
- Screen variant (Scrn var.)	01 SAP Cost center
- Input type	L List Entry
- SendCstCtr	CC-MT-xxyy
- ActTyp	MTxxyy
- RecCstDtr	CC-MF-xxyy
- Total Quantity	200

3. Confirm with *Enter* and save your document.

Item No.	Send. Cctr	SATy...	Rec. CCtr	Total Quantity	U.	Text
0001	CC-MT-9999	MT9999	CC-MF-9999	200,0	HR	
0000						

Figure 55: Direct Activity Allocation: SAP-System-Screenshot

4. List the document number on your data sheet.

Activity allocation (maintenance): _____

Execute the cost report for the current period again to display the planning data for your cost center group again. This time, run the report for the **current period** only. Therefore, choose

**Accounting → Controlling → Cost Center Accounting → Information System → Reports for Cost Center Accounting → Plan/Actual Comparisons → Cost Centers: Actual/Plan/Variance
(S_ALR_87013611)**

1. Enter the following data:

- **Controlling area** **1000**
- **Fiscal year** **current fiscal year**
- **From period** **current period**
- **To period** **current period**
- **Plan version** **0**
- **Cost center group** **Group-xxyy**

2. Choose *Execute*.

You can see that the actually incurred costs were posted to the corresponding cost center using cost element (MNT-xxyy). Moreover, activities are documented in the lower table. The actual values in the planned columns refer in both tables (activity types and Cost Elements) to the monthly average regarding the costs (or activity output) expected (planned) for the year. For example, an overall activity output of 1000 hours was planned concerning the maintenance activities for the manufacturing cost center. Breaking this down, you can calculate a monthly average of 83.33 hours activity. Multiplied by the automatically calculated price of 18 Euro, this means a monthly cost of 1500 Euro for the manufacturing cost center. These planned costs were exceeded 140 % (3600 € or 200 hrs.) in the current period. The last column of the table shows the deviation from the planned value in percent.

Cost centers: actual/plan/variance Date: 10.09.2010 Page: 2 / 4

Cost Center/Group: GROUP-9999 Person responsible: Khatami Receiver of cafeteria costs

Reporting period: 9 to 9 2010

Column: 1 / 2

Cost elements	Act. costs	Plan costs	Abs. var.	Var. (%)
420000 Direct labor cost		50.000,00	50.000,00-	100,00-
430000 Salaries		12.500,00	12.500,00-	100,00-
CAF-9999 Assess. CC-CA-999		12.500,00	12.500,00-	100,00-
MNT-9999 Maintenance-All-9	3.600,00	1.499,99	2.100,01	140,00
* Debit	3.600,00	76.499,99	72.899,99-	95,29-
MFT-9999 Manufacture-All-9		61.499,99-	61.499,99	100,00-
MNT-9999 Maintenance-All-9	3.600,00-	14.999,99-	11.399,99	76,00-
* Credit	3.600,00-	76.499,98-	72.899,98	95,29-
** Over/underabsorption		0,01	0,01-	100,00-

Cost centers: actual/plan/variance Date: 10.09.2010 Page: 3 / 4

Cost Center/Group: GROUP-9999 Person responsible: Khatami Receiver of cafeteria costs

Reporting period: 9 to 9 2010

Column: 1 / 2

Activity types	Act. acty	PlnActvty	Abs. var.	Var. (%)
MF9999 Manufacture-9999		3.333,3 HR	3.333,3-	100,00-
MT9999 Maintenance-hours-9999	200,0 HR	833,3 HR	633,3-	76,00-

Figure 56: Plan/Actual Comparison Cost Center Accounting (2): SAP-System-Screenshot

3.2.3.3 Post Expenses to Cafeteria Cost Center

Next, you will enter the costs at the cafeteria cost center (cost element 417000). Please bear in mind that in an actual business environment many different Cost Elements occur at a cost

center. In our example, however, you will only learn about the basic principle and, therefore, complexity was simplified.



We won't post any cost entries at the other cost centers (manufacturing and maintenance) at this point. Generally, it would also not be logical to do so, especially for the manufacturing cost center, since its costs are allocated via wages. Employees at the manufacturing cost center are paid via wages, i.e., if they work they generate activity that is then allocated directly to, for example, a production order. Thereby, the SAP ERP system uses the automatically calculated prices in combination with the provided activities (activity types) and then calculates the costs for the credit rows. After that, a posting (FB50) must be entered on the corresponding account (420000) of the general ledger. These costs are then displayed in the debit rows. Contrastingly, the employees of the maintenance center receive activity-independent salary, i.e., they would not have to work in principle.

You have already carried out activity allocation for maintenance in the previous section. For manufacturing, you would need a production order (or different posting assignment) as posting assignment (to remain in the logic of the case study scenario) to allocate (credit) the activities provided by the manufacturing center (the cost center is supposed to produce bicycles). However, you do not want to produce anything in this case study (reduction of complexity) and, thus, we will do without this, at this point. In the next section (internal orders), you will focus on the principle in more detail.

Summary of the principle:

1. *The manufacturing department provides activities for a production order that are entered by using activity type MFxxyy.*
2. *The costs of this activity are calculated by using the price (automatically calculated), the activity type and the provided working units (x hours).*
3. *The costs are allocated to the production order or to the customer order and are, thus, considered in cost calculation of the order (how expensive is the production of a bicycle?). These costs are then transferred to the customer with the sales price.*
4. *Since these costs are allocated on the order, the cost center is credited.*
5. *On the other hand, the employees at the manufacturing work center want to be paid. The costs (wages) of the employees are entered with a posting in the general ledger (FB50). These costs appear in the cost report in the debit row.*
6. *In an optimal cost- and activity accounting, credit and debit balance each other so that the balance is zero in the end at this internal cost center.*
7. *This balance is independent of any profits. The profit achieved by a company is the difference of costs (e.g., from a sales order/production order) and the revenue (price * quantity sold) for this order. This balance should be positive;-)*

The externally provided service for the cafeteria generates costs of 12500 €. Since cost element 417000 is a primary cost element, i.e., the company receives activities externally, a posting in **SAP FI** is required. Choose

Accounting → Financial Accounting → General Ledger → Posting → Enter G/L Account Document (FB50)

1. In case you are prompted to do so, enter controlling area **1000**.
2. Enter the following data:

- Document date	<i>current date</i>
- Posting date	<i>current date</i>
- G/L account	417000
- Debit/credit	S Debit
- Amount document currency	12500
- Tax key	V0
- Cost center	<u>CC-CA-xxyy (?)</u>
- G/L account (second row)	113100 (bank account from which the liability is paid)
- Debit/credit	H Credit
- Amount document currency	12500

Enter G/L Account Document: Company Code 1000

Tree on Company Code Hold Simulate Park Editing options

Basic data		Details	
Document Date	10.09.2010	Currency	EUR
Posting Date	10.09.2010		
Reference			
Doc.Header Text			
Cross-CC no.			
Company Code	1000 IDES AG Frankfurt		

Amount Information

Total deb.	12.500,00 EUR
Total cred.	12.500,00 EUR

OO

2 Items (No entry variant selected)												
	S..	G/L acct	Short Text	D/C	Amount in doc.c...	Text	L...	C...	T...	P...	Cost cen...	Order
<input checked="" type="checkbox"/>	417000	Purchased s...	S Debit	▼	12.500,00		<input checked="" type="checkbox"/>	1000	9900		<u>CC-CA-9999</u>	
<input checked="" type="checkbox"/>	113100	Ote Bank (d...	H Credit	▼	12.500,00		<input checked="" type="checkbox"/>	1000				
							<input checked="" type="checkbox"/>	1000				

Figure 57: Expenses Cost Center Cafeteria: SAP-System-Screenshot

3. Confirm with *Enter* and save the document.



In case the system displays a message, select the second line and choose from the lower part of the screen. Enter the **current date** in the **due on** field. Then, choose and save the document again.

4. List the document number on your data sheet.

Cafeteria expense: _____

Call up the cost report again for the **current period** and your hierarchy area H1xxyy to display the planned and actual data for **all** cost centers within your hierarchy again. Choose

Accounting → Controlling → Cost Center Accounting → Information System → Reports for Cost Center Accounting → Plan/Actual Comparisons → Cost Centers: Actual/Plan/Variance (S_ALR_87013611)

1. Enter the following data:

- **Controlling area** *1000*
- **Fiscal year** *current fiscal year*
- **From period** *current period*
- **To period** *current period*
- **Plan version** *0*
- **Cost center group** *H1xxyy*

2. Choose *Execute*.

You can see that the corresponding expenses were posted to the cafeteria. Only cost element CAF-xxyy does not show an actual posting. Although you defined an allocation cycle, this was only applicable to planning. To actually cause the allocation of the cafeteria expenses, you need to create an allocation cycle in the period-end closing in the next step of this case study.

The screenshot displays two SAP system screenshots showing cost center data. The top screenshot shows a detailed breakdown of costs across various cost elements, with annotations explaining the flow of costs from the cafeteria to manufacturing. The bottom screenshot shows a summary of activity types and their variances.

Annotations on the Top Screenshot:

- Real Cafeteria costs posted in SAP FI (FB50) → Primary Costs**: Points to the first row of the cost elements table.
- Real rent (teaching unit 8) costs posted in SAP FI (FB50) → Primary Costs**: Points to the second row of the cost elements table.
- Real costs allocated with direct activity allocation (KB21) → Secondary Costs**: Points to the third row of the cost elements table.
- Thereby CC-MF-xxyy as Receiver was debited**: Points to the fourth row of the cost elements table.
- Real costs allocated with direct activity allocation (KB21) → Secondary Costs**: Points to the fifth row of the cost elements table.
- Secondary Costs Thereby CC-MT-xxyy as Sender was credited**: Points to the sixth row of the cost elements table.
- So far no credit posting from the Cafeteria Assessment**: Points to the bottom right of the table.

Table Data (Top Screenshot): Cost centers: actual/plan/variance

Cost elements	Act. costs	Plan costs	Abs. var.	Var. (%)
417000 Purchased service	12.500,00	12.500,00		
420000 Direct labor cost		50.000,00	50.000,00-	100,00-
430000 Salaries		12.500,00	12.500,00	100,00-
470000 Occupancy costs	10.000,00		10.000,00	
CAF-9999 Assess. CC-CA-999		12.500,00	12.500,00	100,00-
MNT-9999 Maintenance-A11-9	3.600,00	1.499,99	2.100,01	140,00
* Debit	26.100,00	88.999,99	62.899,99	70,67-
CAF-9999 Assess. CC-CA-999		12.500,00	12.500,00	100,00-
MFT-9999 Manufacture-A11-9	3.600,00	61.499,99	61.499,99	100,00-
MNT-9999 Maintenance-A11-9	3.600,00	14.999,99	11.399,99	76,00-
* Credit	3.600,00	88.999,98	85.399,98	95,96-
** Over/underabsorption	22.500,00	0,01	22.499,99	*99900,00

Table Data (Bottom Screenshot): Cost centers: actual/plan/variance

Activity types	Act. acty	PlnActvty	Abs. var.	Var. (%)
MF9999 Manufacture-9999		3.333,3 HR	3.333,3- HR	100,00-
MT9999 Maintenance-hours-9999	200,0 HR	833,3 HR	633,3- HR	76,00-

Figure 58: Plan/Actual Comparison Cost Center Accounting (3): SAP-System-Screenshot

3.2.3.4 Period-end Closing

Period-end Closing in SAP CO-OM comprehends several methods that are used to allocated costs internally. Thereby, indirect, period-based and automatic methods like Distribution, Assessment, Indirect Activity Allocation and Template Allocation are provided.

With the Period-end Closing method Assessment, you will now allocate the **real** costs of the cafeteria cost center (12500 €) to the Receiver cost centers Manufacturing and Maintenance. Create an allocation cycle for period-end closing. Therefore, select

Accounting → Controlling → Cost Center Accounting → Period-End Closing → Single Functions → Allocations → Assessment (KSU5)



In Chapter 3.2.2.6 **Planning Cafeteria Costs Allocation**, you already have created and executed an Assessment for the planned costs in transaction KSUB. The only difference here is that you create the Assessment for the **actual** costs posted. Structure and logic of the Assessment are completely the same.

1. Choose **Extras → Cycle → Create** from the menu.
2. Enter the following data:
 - Cycle **PUxxyy**
 - Start date **01.01. of the current fiscal year.**
 - Press **Enter**.
3. In the **Text** field, enter **Real Assessment xxyy**.

You have to assign your cycle to a *cycle run group* so that all the cycles created in the course can be carried out simultaneously.

4. Choose **GoTo → cycle run group** and then press .
5. Enter Cycle run group **xxyy** and enter the text **Group xxyy** in behind.
6. Confirm with **Enter twice**.
7. Choose **Attach segment**.
8. Enter **segment name SEGM-xxyy** and **description Segment-xxyy**.
9. In the **segment header tab**, enter **CAF-xxyy** in field **Assessment CEle**.
10. Go to the **sender/receiver tab**. For the **sender**, enter in the **cost center** row and in the **from** column the value **CC-CA-xxyy**. For the **receiver**, enter in the **cost center** row and in the **group** column the created **Group-xxyy**.

Segment Header		Senders/Receivers		Sender Values		Receiver Tracing Factor	
From		To		Group		MR	
Sender							
Cost Center	CC-CA-9999						
Functional Area							
Business Proc.							
Cost Element							
Receiver							
Order							
Cost Center						GROUP-9999	
Functional Area							
Cost Object							
WBS Element							
Business Proc.							

Figure 59: Sender-Receiver: SAP-System-Screenshot

11. Select the **receiver tracing factor** tab. Select **6 Plan Stat. Key Figures** from the **variable portion type** field. Confirm the following request with *Enter*. Enter **version planned/actual (0)** and in the **statistical key figure row** and the column **From** enter your key **EMxxxx**.
12. Save your entries and return to the initial screen of transaction KSU5. Confirm all system requests



If you get a Customizing-Order Request with no entry in the Order field, press , enter any description text and save. Then you can confirm the Request.

Caution

Execute Assessment to allocate the costs.

13. Again, enter your cycle **PUxxxx**. Enter the **current period** into the period field and in the **until** field the current period as well.
14. Deselect **test run** and choose *Execute*.
15. If the assessment cycle is completed successfully, the following screen appears. You can check the receiver and sender details with the specific buttons.

Display CCA: Actual Assessment Basic List									
Display CCA: Actual Assessment Sender List									
Display CCA: Actual Assessment Receiver List									
Controlling Area	1000								
Version	0								
Period	009								
Fiscal Year	2010								
Document Number	600054366								
Processing status	UpdateRun								
Processing completed without errors									
Cycle	Start Date	Text	P	Senders	Number of receivers	No. of messages			
PU9999	01.01.2010	Real Assessment 9999	I	1	2	0			
Invalid	Period	Cost Ctr	Functional Area	Cost Elemt	RI	CO area currency	COCr	Sender TF	
	9	CC-CA-9999	0980	CAF-9999		12,500,00	EUR	25.000	
*	9					12,500,00	EUR		
**						12,500,00	EUR		
Invalid	Period	Cost Ctr	Functional Area	Cost Elemt	RI	CO area currency	COCr	Tracing Factor	
	9	CC-MF-9999	0980	CAF-9999		10,000,00	EUR	20.000	
*	9	CC-MT-9999	0980	CAF-9999		2,500,00	EUR	5.000	
**						12,500,00	EUR		
						12,500,00	EUR		

Figure 60: Period-end Closing Actual Assessment: SAP-System-Screenshot

Run the cost report one last time for the current period and your cost center group H1xxxx. Choose

Accounting → Controlling → Cost Center Accounting → Information System → Reports for Cost Center Accounting → Plan/Actual Comparisons → Cost Centers: Actual/Plan/Variance (S_ALR_87013611)

You can see that cost element CAF-xxxx was now updated with the corresponding amount. Thereby, the Assessment has credited (minus sign) the cost center Cafeteria and debited the other two cost centers (plus sign).

You can display the itemization of the individual cost centers by clicking a cost center twice in the left column and check the *Cost Center: Actual Line Item* reports.

The screenshot displays three SAP ERP windows:

- Cost centers: actual/plan/variance**: Shows a list of cost elements with their respective actual costs, plan costs, and variances. A red box highlights the row for 'CAF-9999 Assess. CC-CA-9999'.
- Primary Costs for Cafeteria originally posted on Cafeteria Cost Center**: A table showing posting details for cost element CAF-9999. A red box highlights the row for 'Cost Center CC-CA-9999 Cafeteria-9999'.
- Cost Centers: Actual Line Items**: A window showing detailed cost breakdowns for the selected cost center. A red box highlights the row for 'CAF-9999 Assess. CC-CA-9999'.

Figure 61: Plan/Actual Comparison Cost Center Accounting (4): SAP-System-Screenshot

3.3 Elucidation



What have we learned so far?

You got acquainted with the central components of Cost Center Accounting (CO-OM-CCA), the master data used within CO-OM-CCA and the posting logic. Furthermore, some cost allocation methods were introduced.

3.3.1 Master Data in Cost Center Accounting

There are four central master data types in SAP CO, which are closely linked to each other. These master data types are:

- Cost Elements
- Cost Centers
- Activity Types
- Statistical Key Figures

3.3.1.1 Cost Elements and G/L Accounts

Cost Elements are classifications of the organization's valued consumption of production factors within a **controlling area** (SAP CO view). There are three types of Cost Elements:

- Primary Cost Elements
- Revenue Elements
- Secondary Cost Elements

Primary Cost Elements are Cost Elements whose costs originate outside of SAP CO (external costs) and accrual costs that are used only for controlling purposes. Each primary cost element corresponds to an expense account (Class 4, see following figure) in a chart of accounts. However, there are also primary Cost Elements that correspond to account classes 1 to 3, but these are considered as exceptions for special purposes.

When you create primary Cost Elements, the SAP System checks whether a corresponding general ledger (G/L) account exists in Financial Accounting (SAP FI). If no account exists, you can go directly from the cost element initial screen to the master data maintenance screen in Financial Accounting to create a G/L account in the chart of accounts or in the company code.

Costs which are considered as primary Cost Elements include:

- material costs
- costs for external procurement

These costs are allocated to the order via primary costs such as material issues.

Revenue Elements are objects that record the value of operating sales within one **controlling area**. Each revenue element corresponds to a revenue account (Class 8) in a chart of accounts.

Secondary Cost Elements are Cost Elements that are used to allocate costs for internal activities. Secondary Cost Elements do not correspond to any G/L account in Financial Account-

ing. They are used only in Controlling and consequently cannot be defined in SAP FI as an account. Costs which are considered to be secondary Cost Elements include:

- production costs
- material overhead costs
- production overhead costs

Each **primary cost element** and **revenue element** corresponds to a cost-relevant item (account) in the chart of accounts resp. general ledger of a **company code** (SAP FI view). That means that whenever you create an account in SAP FI that is also relevant for SAP CO, you must create a cost element type with the **same number** in SAP CO.

For instance, primary costs in SAP CO always have a corresponding SAP FI accounting in the general ledger in the account class 4. Account class 4 groups all accounts with the numbers between 400000 and 499999. These accounts are used to post expenses in SAP FI, which occur from external transactions, e.g., purchasing materials.

Similarly, revenue elements in SAP CO always have a corresponding revenue account in SAP FI. These accounts are grouped in account class 8 (800000 to 899999).

Secondary Cost Elements are not relevant to SAP FI, since they are used only for internal purposes, e.g., cost allocation. Thus, secondary Cost Elements **do not** have a corresponding FI-GL account.

The following figure displays an example of the INT chart of accounts and the corresponding primary/secondary cost element and revenue element types. You can see that secondary cost element types (class 5 and 6) have no correspondence in the charts of accounts, whereas primary and revenue elements always have a corresponding account in SAP FI/chart of accounts.

Example: International Chart of Accounts

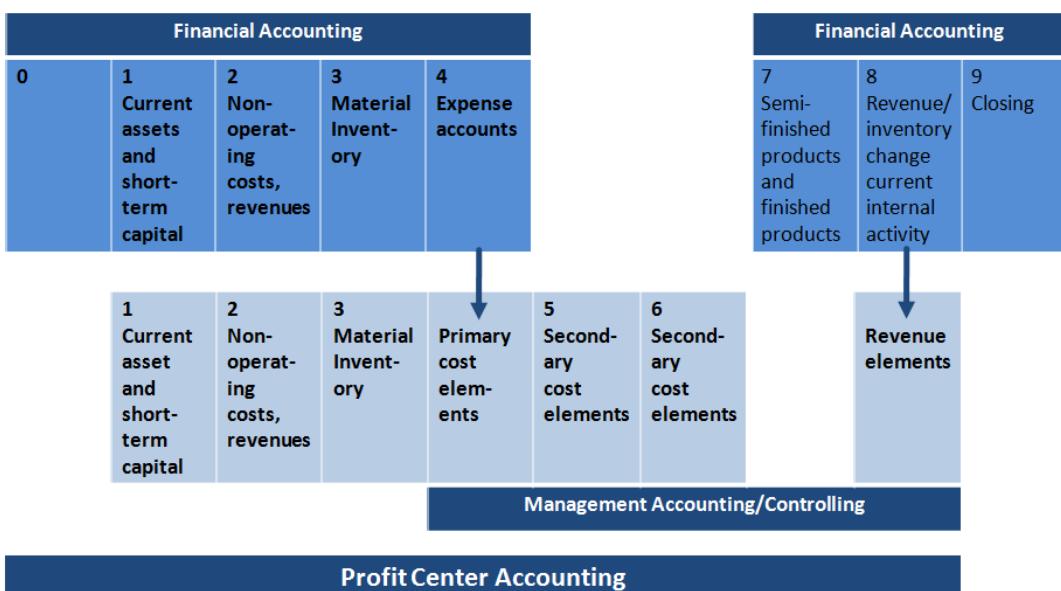


Figure 62: Chart of Accounts and SAP CO

You use secondary Cost Elements in SAP CO only. That is, secondary Cost Elements are only used for company internal purposes, e.g., allocating costs from one cost center to another

using assessment etc. Primary and revenue elements are relevant for SAP CO and SAP FI. Hence, you always have a corresponding account in the chart of accounts for primary and revenue elements.

You have, e.g., the following business case:

You pay your employees and, therefore, post the payment in SAP FI. Your employees receive wages. Wages are primary Cost Elements in SAP CO and they are defined in a standard SAP ERP system as cost element 420000. In SAP FI, you have a corresponding account with the same number (420000). When entering this posting in, e.g., transaction FB50 in SAP FI, you enter the G/L account 420000, which is debited and your bank account (e.g., 113100) is credited. After saving the posting, an FI accounting document is created, which records this posting and a corresponding CO document is created, which records the cost in CO on the cost element 420000. A secondary cost element cannot be included in a FI posting.

3.3.1.2 Cost Center

A cost center

- is an organizational unit within a controlling area that represents a clearly delimited location of cost occurrence
- Using Cost Center Accounting (CO-OM-CCA), you can check **where** costs occur in a company.
- allows for a differentiated assignment of overhead costs to company activities based on the utilization of the respective organizational area (cost determination function)
- allows for a differentiated controlling of costs occurring within a company (cost control function)

Setting up cost centers can be based on several criteria. This includes, amongst others:

- functional requirements
- allocation criteria
- activities or services
- geographical aspects or responsibilities

Cost Center Data

When you create a cost center in SAP ERP, you enter the following data in the Basic Data section:

- Name and description
- Name of the responsible person or cost center manager
- Department and **profit center**
- **Cost center hierarchy (required entry!)**
- **Company code and business area**

3.3.1.3 Cost Center Standard Hierarchy

- It represents all cost centers of one controlling area from a Controlling perspective in a tree structure.
- It contains all cost centers for a given period.
- You can combine cost centers into cost center groups.

- You can then create cost center hierarchies from these groups by combining the groups according to decision-making area, area of responsibility or management area.

3.3.1.4 Activity Types

An **activity type** is a unit in a controlling area that classifies the activities performed in a cost center. For instance, activity types in a production cost centers are machine hours or finished units.

Example of cost/activity allocation using activity types

- Cost center for maintenance has the activity type **maintenance hours** assigned.
- The activity type maintenance hours is allocated using cost element type (**secondary cost element type**) maintenance costs.
- Now the cost center maintenance performs maintenance hours for another controlling object in the company. That could be, e.g., another cost center, any kind of order or a process.
- The controlling object that consumes the activity must "pay" for it. Thus, the costs of the activity are allocated to the activity receiver using the activity as **tracing factors for this cost allocation**. That means, the system checks
 - o how much the activity costs that the cost center performs
 - o multiplies the cost rate with the performed units (e.g., hours)
 - o and allocates it using the cost element type to the receiver
 - o Now, the receiving controlling object has a cost position posted (debit) with the cost element type specified and the activity sender is credited.

3.3.1.5 Relationship between Cost Center and Activity Type

Cost Centers can have multiple activity types assigned. For instance, your Maintenance cost center had 10000 hours of activity type maintenance hours assigned in transaction KP26.

The planned price of one unit of the activity can be either entered manually in KP26 or you can have it calculated by the system, e.g., with transaction KSPI.

When, e.g., using **direct activity allocation**, you enter the activity quantity to be allocated manually in transaction KB21N. Hereby, you can specify how many units of the activity are allocated to a receiver controlling object.

When running cost and activity allocation, SAP ERP takes the planned price of the activity in the sender cost center, multiplies it with the amount of activity allocated to calculate the costs that are debited to the receiver and the revenue credited to the sender.

Example:

If you allocate 1000 hours of maintenance hours from cost center Maintenance to cost center Manufacturing in KB21N and you have set the planned price at 10 € per hour, the activity direct allocation leads to a credit posting of 10.000 € on the maintenance cost-center and a debit posting on the Manufacturing cost center of the same amount.

Consider that the direct activity allocation procedure should only be used if price calculation is structured simply. For example, you should use this procedure if prices required for rates are determined within the company and are not depending on internally produced activities, or

if a rate depends on prices of external suppliers and not on the costs of a cost center. Complex pricing structures usually use indirect allocation methods.

3.3.1.6 Statistical Key Figures

- **Statistical key figures** define measurable values that can be applied to cost centers, profit centers, internal orders or processes.
- Example:
 - o the total number of employees in a cost center
 - o long-distance calls (measures in minutes)
 - o the number of employees that perform vehicle repairs in the transportation cost center
- Statistical values can be posted as planned and actual values.
- Statistical key figures can be considered as allocation basis (“tracing factor” in CO terminology) for periodic transactions such as distribution or assessment or for analysis purposes. For instance, you use the employee numbers of your cost centers as factor for calculating how to allocate cantina costs.
- There are two types of statistical key figures:
 - o **Fixed value:** do not change very often and are transferred from one period to the next. Example: number of employees in a cost center is pretty constant on a monthly basis.
 - o **Total value:** is not transferred from one period to the next. Example: electricity consumption in kilowatt-hours is different each month.
- Statistical key figures can also be copied from the Logistics Information System (LIS) by linking a key figure from the LIS with a key figure in Cost Center Accounting.

3.3.1.7 Master Data Groups

All master data presented here (cost center, cost element type, activity type, etc.) can be grouped in **master data groups**. That is, you can group activity types to activity type groups, cost centers in cost center groups, cost element types in cost element type groups, etc.

By creating those groups, you can run specific functions (analyses, allocations, transfers, etc.) on a group and it will be applied to all members of the group. For instance, you perform a cost allocation for your own group, using the fixed statistical key employee that was assigned to each group element (cost centers) and, thus, allocate the costs to both members of the group.

The following applies when using master data groups:

- Master data (cost center, cost element type, activity type) is assigned to the lowest level node in the structure.
- A master data value (cost center, cost element type, activity type, etc.) can only appear once in a group.
- You can create as many **different** groups as required. You must only make sure to use different names (client-wide).
- You can use each value (e.g., activity type) in more than one group.

The standard hierarchy for a cost center is a special type of cost center group. Each controlling area must feature a unique standard hierarchy. All cost centers of this controlling area **must** be assigned to a node of this standard hierarchy.

3.3.2 Cost Center Planning

Cost center planning involves entering plan figures for costs, activities, prices or statistical key figures for a particular cost center and a particular planning period. You can then determine the variances from these figures when you come to compare these plan values with the costs actually incurred. These variances serve as a signal to make the necessary changes to your business processes.

Cost center planning forms part of the overall business planning process and is a prerequisite for standard costing. The main characteristic of standard costing is that values and quantities are planned for specified timeframes, independently of the actual values from previous periods.

You can take plan costs and plan activity quantities to determine the (activity) prices. These prices can be used to valuate internal activities during the ongoing period, that is, before the actual costs are known.

Scope of planning

Cost center planning is divided into the following planning areas:

- Cost Elements/activity input
 - o Primary costs
 - o Secondary costs
 - o Revenues
- Activity type planning/price planning
- Statistical key figure planning

You can perform cost center planning either manually or using automatic procedures.

Manual planning covers the following planning areas:

- planning statistical key figures
- activity type planning
- primary cost planning
- secondary cost planning
- budget planning
- detailed planning

You plan activity types, statistical key figures and costs using the appropriate planning methods. In the standard system, SAP provides planner profiles and planning layouts for the relevant planning area.

Unlike Periodic Allocations where the system **determines the plan values** once at period-end with user-defined rules, in manual planning you plan each value yourself.

Periodic Allocation (automatic procedure)

In distribution and assessment, you further allocate costs (or quantities for indirect activity allocations) collected on a cost center during the accounting period to receivers, according to user-defined keys. These are, therefore, indirect allocation methods because the exchange of activity is not the basis for allocating costs/quantities. Instead, user-defined keys such as percentage rates, amounts, statistical key figures or posted amounts provide the cost/quantity assignment basis.

The advantage of these methods is that they are easy to use. You usually define the keys and the sender/receiver relationships only once.

Distribution and assessment are used primarily for cost centers. This is because direct cost allocation is not possible here due to the variety of transactions, the lack of clearly defined individual activity types and the fact that the entry of the activity is too time-consuming. For example, the costs of the company cafeteria may be assigned based on the number of employees in each cost center. Telephone costs are seldom allocated directly to the individual cost centers, but are collected on a clearing cost center for each period. They are then repotted or distributed at the end of the period according to the number of telephone units or telephone installations in each cost center.

3.3.3 Posting Logic

There are several ways how postings can be done to SAP CO from **external** sources. However, all you need to consider that a document is only created in Management Accounting if the posting involves an existent primary cost element or revenue element type. That is, when the posting involves a cost element that has a corresponding G/L account in SAP FI.

Example: Posting from Financial Accounting to a Controlling Object, e.g., Cost Center

You purchase a raw material for an order (internal, sales, etc.), cost center or any other controlling object and you post the expense on P/L account 400000 and pay the money from your bank account 113009 (balance sheet). You must enter the controlling object that is debited in the FI document. When saving, in addition to the FI-document, a CO-document is created, each with a unique document number. The CO document contains

- the controlling object that was posted to (cost center, order, etc.)
- used cost element (in this case primary cost element type 400000)
- the posted amount (money amount you paid)

Using the drill down functionality, you can access each document from the other one.

Note that in SAP FI all transactions are balanced postings. That is, there is always a credit posting and a debit posting in SAP FI. In our example, you debited the P/L account and credited the balance sheet account. In SAP CO, you only debited the controlling object (cost center, order, etc.) with the posting. Primary costs are treated as one-sided journal entries when posting them, as opposed to traditional balanced financial accounting journal entries. There is no credit posting in SAP CO.

Also consider that when moving costs internally from one controlling object to another in SAP CO (no SAP FI involved using secondary Cost Elements!), e.g., when allocating costs

from one cost center to another controlling object, the sender object is credited and the receiving object is debited by the same amount.

Example: Postings from Materials Management to a Cost Center

You want to transfer material from stock to a certain cost center. Therefore, you post a goods issue in SAP MM and the receiver is the cost center. In the goods issue document you assign the cost center.

As you might remember from teaching unit 1 and 5, the movement type specified in this goods movement controls the way stock and accounts are altered due to this movement.

Consider that the amount removed from stock results in a value based decrease on the Material Stock account, which is credited and accompanied with a corresponding debit posting on the Materials Consumption account. These postings induced by the movement type of the goods issue take place in SAP FI and record the value based changes and movements occurred.

From a SAP CO (cost center) point of view, this procedure is a material consumption, that is, a consumption of an object that corresponds to a primary cost element type. Thus, the cost center is debited by the amount of the goods issue using a primary cost element.

3.3.3.1 Real and Statistical Objects in Management Accounting

For postings in external accounting that use a cost element as the account, you need to use special account assignment logic. This enables the system to ensure that data is reconcilable with all the relevant application components. These rules for the account assignment logic always apply for postings in internal accounting (Controlling).

Account assignment distinguishes between true and statistical Controlling objects.

True Controlling Objects

- Cost centers (for account assignment of costs)
- Orders (true)
- Projects (true)
- Networks
- Make-to-order sales orders
- Cost objects
- Profitability segments
- Real Estate Objects
- Business Processes

You can use true Controlling objects as senders or receivers.

Statistical Controlling Objects

- cost centers (for account assignment of revenues)
- cost centers, if a true account assignment object already exists
- statistical internal orders
- statistical projects
- profit centers

Statistical objects cannot allocate costs to other objects and are only for reporting and information purposes.

3.3.4 Costs Allocation

The main focus of SAP CO is to allocate costs in a company to those company units (controlling objects) that produce costs by consuming resources. For instance, a cost center that produces a finished good produces costs by

- consuming materials
- consuming workforce
- consuming electricity
- using the company's infrastructure (IT, telephone, administration)
- using company's assets (buildings, machines, computers, car pool, etc.)
-

All these resources are provided by other cost centers and need to be transferred to the consumer. Thereby, it is crucial that the cost-/activity-recipient "pays" for only those resources he consumes.

SAP CO provides multiple methods for cost allocation. Thereby, you can distinguish between

- "direct-manual-transaction-based" methods (component Manual Actual Postings):
 - o Direct cost allocations involve manual postings in a transaction. That is, you post manually, by using a transaction like KB21N or KB16N, a cost or activity that a cost center produced to another cost center.
 - o This type of allocation can only be used when the cost structure is very clear and simple.
 - o Examples of this allocation type are Manual Actual Posting and Direct Activity Allocation.
- "indirect-automatic-period-based" methods (component Period-End Closing):
 - o These methods are used to allocate costs on a period-related basis, e.g., end of each month.
 - o Thereby, predefined structures are used to calculate the costs to be allocated. Structures in this context mean that you define tracing factors (percentages, statistical key figures, fixed values, etc.), master data groups, allocation cycles, etc. and prompt the system to calculate activity prices and costs to be allocated automatically.
 - o This type of allocation is used for complex costing structures. Consider that in a company with many cost centers and resource senders it is very difficult to find out what a provided activity really costs and how it should be settled on the receivers.
 - o Examples of this allocation type are Periodic Reposting, Distribution, Assessment, Template Allocation and Indirect Activity Allocation.

Manual Cost Allocation

- Involves posting of **secondary costs** manually. But you can transfer any type of cost (primary and secondary).
- A sender object (e.g., a cost center) is credited and a receiver object (e.g., an order) is debited.
- You can only use manual cost allocation for actual postings. It is not possible to copy data records that were generated by using manual cost allocation into plan data.
- This method
 - o allows transferring costs manually and directly, without having to set up a periodic indirect method for a simple allocation.
 - o allows transferring external data like primary costs incurred on a cost center to another controlling object manually.

Direct Activity Allocation

- You allocate activities directly from the sender to the receiver.
- For direct activity allocation, the activity type (used as the tracing factor for the cost calculation) must have been created.
- Posting a Direct Activity Allocation involves:
 - o entering the cost center that provides the activity (sender cost center)
 - o entering the controlling object that receives the activity (receiver)
 - o entering the activity type
 - o entering the delivered activity quantity
- Prerequisites to Direct Activity Allocation:
 - o You must previously have entered the activities and activity amounts cost centers provide, e.g., cost center X provides 1000 hours of activity Y in fiscal year 2010 (planning activity output of cost centers).
 - o Activity price must have been specified either manually or automatically. If no actual price is specified, the system takes the planned price.
 - o The cost element used for direct activity allocation must have been specified in the master data of the activity type. The cost element cannot be changed during allocation.
- In activity allocation, the sender cost center is credited and the receiver controlling objects are debited. Crediting and debiting is carried out by using a secondary cost element with category 43. Crediting and debiting is carried out for the performed amount of activities multiplied by the activity price.
- Example: The service cost center "Plumbers" (4110) performs 2 hours of the activity type "Repairs" for production cost center HFI (4210). The plan price for the repairs activity type is USD 15 per hour. In direct activity allocation, this price is valued as follows:
 - o $2 \text{ hrs} \times 15 \text{ USD/hr} = 30 \text{ USD}$
 - o The "Plumbers" cost center is credited with this amount and the HFI production cost center is debited correspondingly.

Periodic Allocations with Sender/Receiver Relationships

Since the examples given in the theory part are pretty clear, we will use this occasion to provide some background information on the methods involved. Consider that as extra information.

Periodic allocations are more commonly used than manual, directly methods. Thereby, SAP ERP provides the following types of periodic allocation:

Distribution

Distribution is used to allocate the primary costs of a cost center. The following information is passed on to the receivers:

- The original cost element (that is, the primary cost element) is retained.
- Sender and receiver information (for example, the identities of the sender and receiver cost center) is documented by using line items in the CO document.

You can use the information system to analyze the distribution results according to sender and receiver relationships.

Assessment

A method of internal cost allocation by which the costs of a sender cost center are allocated to receiver CO objects (such as orders and other cost centers) using an assessment cost element, and on the basis of the keys (e.g., statistical key figures) defined by the user.

Assessment is a method of allocating primary and secondary costs in Cost Center Accounting and Activity-Based Costing. The following information is passed on to the receivers:

- The original Cost Elements are assigned cumulatively, or in groups, to assessment (secondary) Cost Elements. The original Cost Elements are not recorded on the receivers.
- Sender and receiver information (sender cost center, receiver cost center or business process) appears in the Controlling (CO) document.

Allocation through assessment is useful when the composition of the costs is unimportant for the receiver. For example, the assessment of cafeteria costs to a cost center does not need to be broken down further.

Indirect Activity Allocation

A method of periodic allocation to determine the input of activity indirectly allocated from the sender (cost center or activity type) from the perspective of the receiver.

If you are not able to enter the activity consumed by the receiver, or it is too time-consuming, this method can be used to distribute the total activity quantity from the sender to the receivers.

Template Allocation

This is a dynamic allocation tool that uses functions and formulas to calculate numerical values and the values of Boolean expressions (true or false).

This tool is used for various purposes such as sender-receiver allocations and as an aid for formula planning. Instead of pre-assigned allocation data, the template uses a generic description for any data (such as the sender object, quantities and costs). Since this data is not known at the time the template allocation is performed, it is determined dynamically when the values are calculated.

The use of template allocations is one method to assign overhead costs. This method is unique for several reasons:

- Costs are not just allocated, but the system also determines the quantities that the respective receiver objects consume or utilize; costs are calculated based on the quantities and prices and, therefore, more accurately determined.
- Working with templates: the sender, quantities and activation time do not already exist, but can be dynamically determined through the template at the time of the calculation.
- The template uses functions defined by the user or already provided in the system to determine the needed data; these functions pull information already in fields or carry out complex algorithms from the operative data in the SAP system; they are created and maintained in the environment maintenance.
- Sender objects can be business processes or cost centers/activity types.

Periodic Reposting

Periodic Reposting is a function that lets you correct postings to cost centers.

Periodic reposting is an allocation method that uses rules defined in the form of cycles to credit allocation cost centers. These allocation cost centers are used to collect the postings relevant for cost accounting.

Periodic reposting is posting aid that enables you to adjust postings made to your cost centers or business processes, internal orders or WBS elements (see teaching unit 11). It has the same result as transaction-based reposting. The results of transaction-based repostings have a direct effect on the actual costs of the sender and the receiver, whereas periodic repostings have a one-time effect on actual costs at period-end closing.

Postings relevant to Controlling (CO) such as telephone costs, postal charges, insurance, and so on, are entered in Financial Accounting (FI) and posted to an allocation cost center or a business process. These are used exclusively for cost collection. This minimizes the number of different account assignments you have to make when entering data in FI. At the end of the period, the collected costs are reposted to the cost centers or business processes, which incurred the costs by means of user-defined keys (fixed values or dynamic tracing factors). The following information is passed on to the receivers:

- The original cost element (the primary cost element) is retained.
- During periodic repostings, you can allocate activity-dependent plan costs to receiver objects of the category "cost center" (sender activity type is retained) or "business process".
- You can allocate activity-independent costs to all receiver object categories, for example, cost centers, business processes or orders.
- The allocation cost center is not important for the receiver cost centers (neither is the sender business process for the receiver processes). The SAP System, therefore, stores data records for periodic reposting in a way that uses less memory than, for example, Distribution. For this reason, the sender cost center or sender process is not updated by using this method. You can only analyze from which cost center or from which business process the costs originate from the line items, and not from the totals records.

3.3.5 Real-Time Integration of Management Accounting and Financial Accounting

During allocations in Controlling, most of the postings created do not affect Financial Accounting. These postings do not update any G/L account transaction figures; they are postings within Controlling. If, however, an allocation in Controlling leads to a change in the functional area or any other characteristic (such as Profit Center or Segment) that is relevant for evaluations in Financial Accounting, a shift occurs between the affected items in the profit and loss statement. For this reason, this information has to be transferred to Financial Accounting. This reconciliation between Controlling and Financial Accounting takes place by means of real-time integration.

As a result of real-time integration, all Controlling documents that are relevant for General Ledger Accounting are transferred from Controlling to General Ledger Accounting in real time. This means that Financial Accounting is always reconciled with Controlling.

A document is created in Financial Accounting for each posting in Controlling. This means that the detailed information contained in the CO documents is always available in reports in New General Ledger Accounting. This information can be sorted by the following, for example:

- Functional area
- Cost center
- Internal order

The real-time integration is defined for the following criteria:

- functional area
- company code
- business area
- profit center
- segment
- funds
- receivables

Value flows within controlling that are relevant for General Ledger Accounting – such as assessments, distributions, confirmations and CO-internal settlements – are transferred immediately. The FI documents are posted with the business transaction COFI. They contain the number of the CO document. This means that you can call up the CO document from the FI document and vice versa.

4 Internal Orders

This section deals with the Management Accounting component Internal Orders.

4.1 Theory: Internal Orders (SAP CO-OM-OPA)



Theory

An internal order is a flexible tool in controlling. It can be used in many ways, e.g., for tracking costs and/or revenues within a controlling area. Internal orders are used for planning, monitoring and allocation of costs.

You can use Internal Orders as an alternate to cost centers to monitor costs below the cost center level. Thereby, you use internal orders to capture project-related cost and revenues for Trade Fair, Product Promotions, Facility Maintenance, Repair Services, etc. Differences between an internal order to a cost center as a cost collector are:

- a) You usually use internal orders to break costs out below the cost center level such as repair costs.
- b) You use internal orders for tracking individual or recurring events such as trade fairs.
- c) You use internal orders usually for business events with short-term duration, for example, trade fairs.
- d) You might have the case that several cost centers share the expenses for one business event – such as product promotion expenses may be shared between the Marketing and the Sales department, but you want to track the expense on one cost collector. In this case you can post all costs on one internal order.

4.1.1 Internal Order Types

Internal orders can be used for many different purposes. They can be grouped in four categories:

- **Overhead orders** are used to monitor overhead costs incurred for a particular purpose, for example, performing a trade fair or documenting costs such as maintenance and repair work.
- **Investment orders** are used to monitor the costs occurred for the production of a fixed asset, for example, of a building like a warehouse.
- **Accrual orders** are used for offset postings of accrued costs (costs calculated in CO) to cost centers.
- **Orders with revenue** replace the cost accounting part of the sales orders in the SD component if SD is not used. Thereby, both costs and revenue can be monitored. They can also be used for monitoring revenue that is not part of the core business of the company (e.g., miscellaneous revenues).

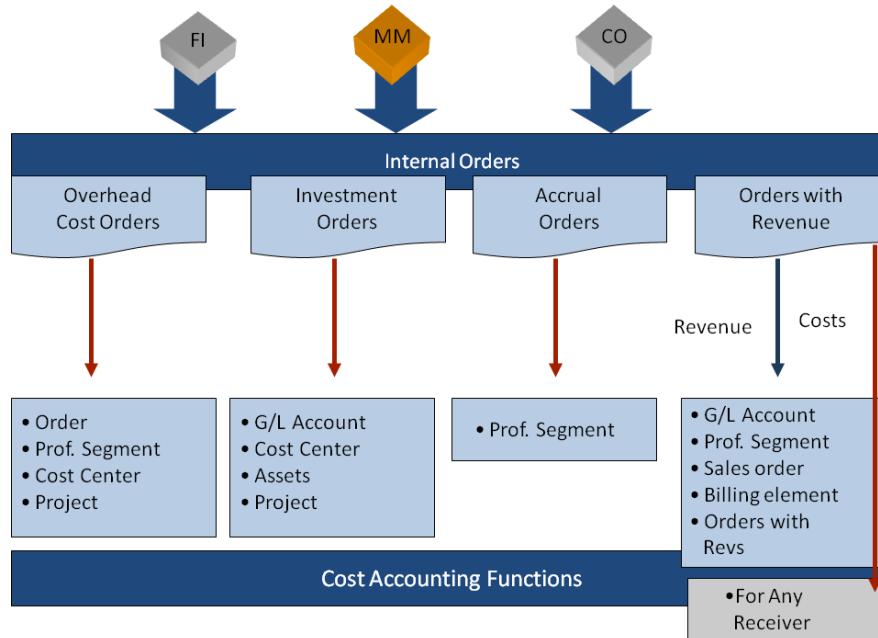


Figure 63: Internal Order Types

4.1.2 Planning Internal Orders

During internal order planning, you enter costs, activities and business processes that you expect to incur during the life cycle of an order. Using internal order planning, you can compare plan and actual costs and carry out a differentiated variance analysis.

Cost planning is usually carried out for orders with a long life cycle. Orders with a short life cycle such as unexpected, small repair works are usually not planned.

There are three cost planning levels for planning internal orders:

- **Overall planning** is the simplest form for planning order costs. You can plan overall and annual values independent of the Cost Elements.
- **Primary/secondary cost and revenue planning** can be used in case you have detailed information regarding an order. For manual planning purposes, primary/secondary cost and revenue planning features planning primary costs, activity inputs and revenues.
- Using **unit costing**, you can carry out a more detailed planning in comparison to using Cost Elements.

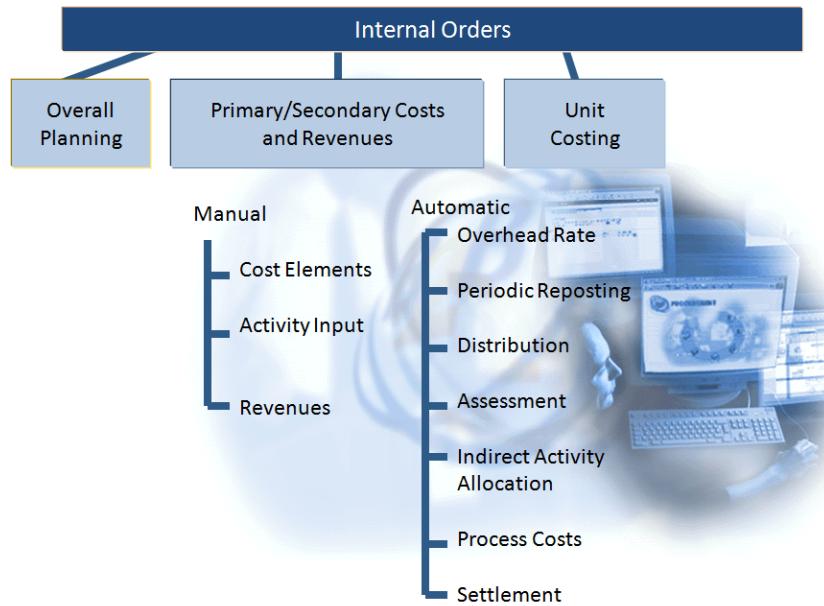


Figure 64: Planning/ Calculating Internal Orders

4.1.3 Posting to an Internal Order

Since an internal order is a type of cost object, it can receive postings from other applications such as SAP FI, SAP MM, SAP SD, etc.

You can get a better overview of costs that cannot be itemized at a cost center by using an internal order. An order can be real or statistical (i.e., only for information purpose). If it is a statistical posting, the controlling object that the internal order is attached to would receive the real posting.

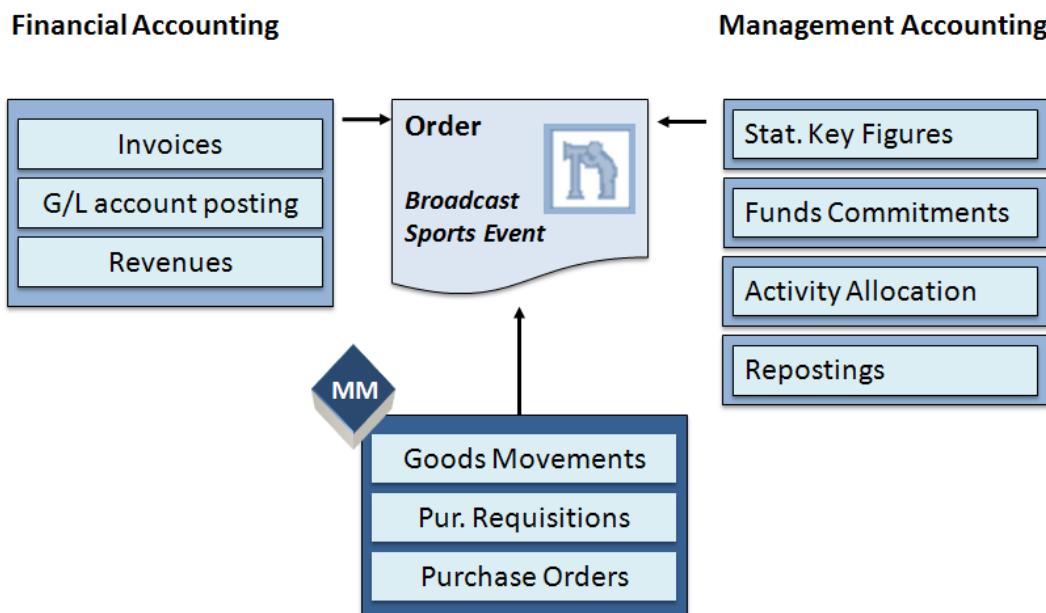


Figure 65: Posting to an Internal Order

4.1.4 Commitment

A commitment identifies costs, which will be incurred in the future for materials and services requested or ordered. By recording commitments as well as actual costs, you can compare the funds you have allocated to your planned or budgeted costs to determine funds availability. Commitments for future costs are created in the Purchasing function of the Materials Management component.

A commitment is recorded automatically when you assign an overhead order to a purchase requisition or purchase order line item. You reduce the commitment by posting a goods receipt against a purchase order. Actual costs are posted to the internal order. This process continues until the purchase order is closed and the commitment is reduced to zero. You must activate commitment management in Management Accounting for each controlling area.

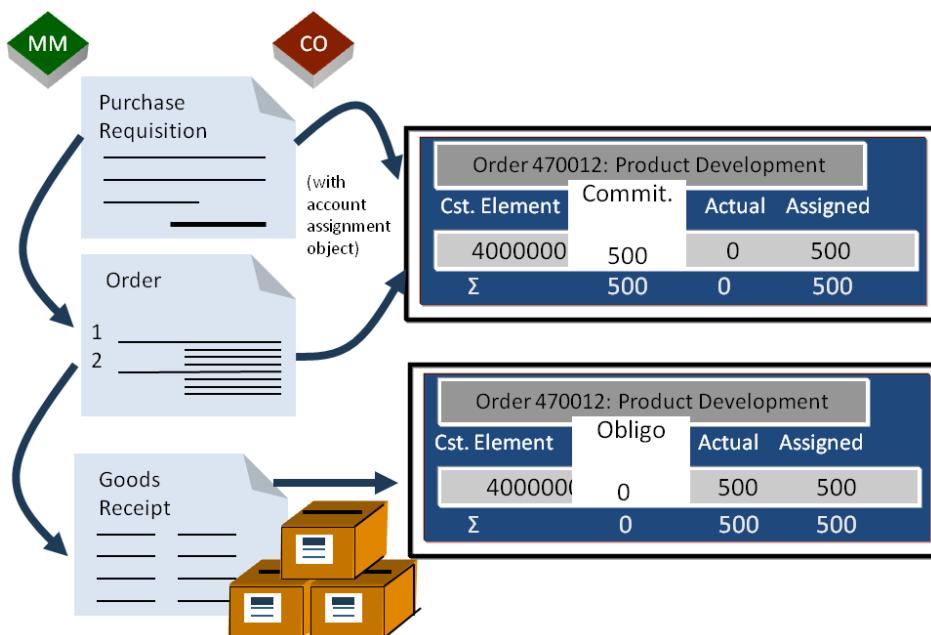


Figure 66: Commitment

4.1.5 Order Settlement

Usually, internal orders serve as interim cost collector and as an aid to plan, monitor and report. When an order is completed, the costs must be posted to their final destination (cost center, asset, profitability segment, etc.). This operation is called “settlement”. It is another form of periodic cost allocation. Thereby, the order is periodically credited and a receiver is debited with cost.

Settlements can be carried out according to order type and its purpose in the company either at the end of a period or at the end of the order’s life cycle.

Order settlements can be carried out to different types of receivers. Internal orders are more flexible than cost centers as far a settlement receivers go – in fact settlement can be to balance sheets and P&L accounts if desired. Furthermore, possible settlement receivers can, for example, be cost centers, other orders, projects, profitability segments and fixed assets. The possible receivers of a settlement are defined in customizing. Moreover, you have to check that no restrictions are in place (e.g., period lock) that might prevent settlement.

You have to define a settlement rule for each order. A settlement rule establishes the sender and receiver relationships as well as how much each receiver will receive during settlement (analog to tracing factors). The settlement rule is defined in the order master record. This rule can contain that all costs of the order are allocated to an individual receiver or to multiple receivers.

Settlement can be structured flexibly by using numerous available settlement options.

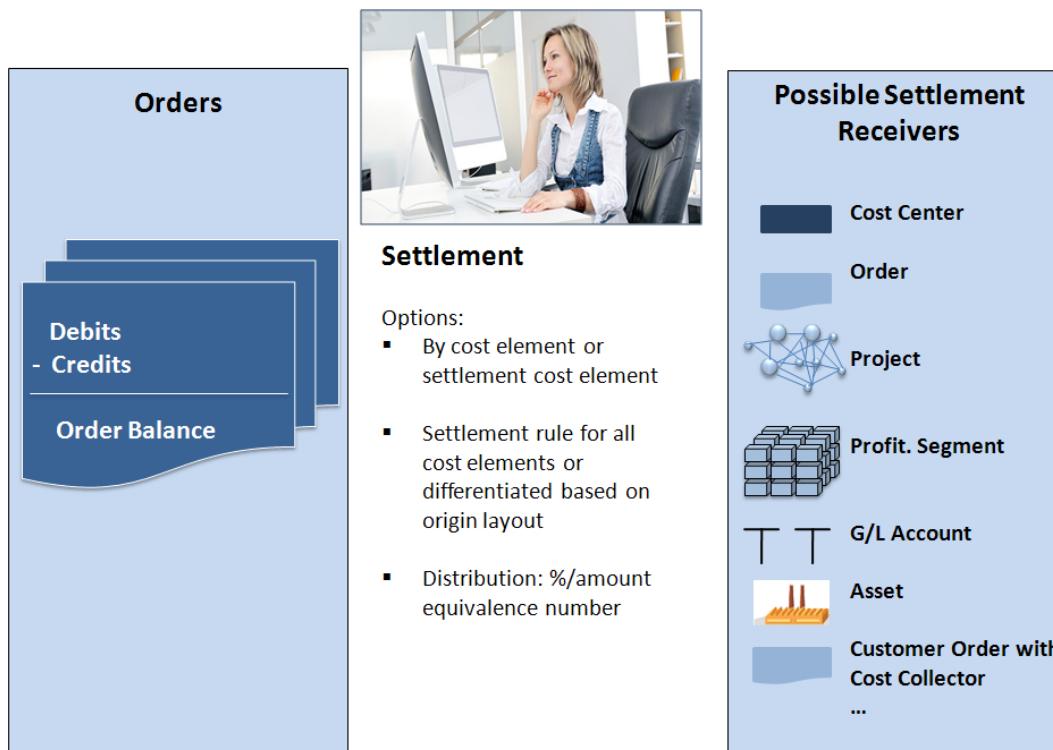


Figure 67: Order Settlement

4.2 Practice: Internal Orders (SAP CO-OM-OPA)



The R&D department of your company wants to improve the Speedstarlett. Therefore, you must create an overhead order (internal order) to enter the costs incurred in product development. The costs are posted per posting period to cost center 4500 (R&D). Your manufacturing cost center will produce the prototype in this context and will be the responsible cost center for the work on the prototype.

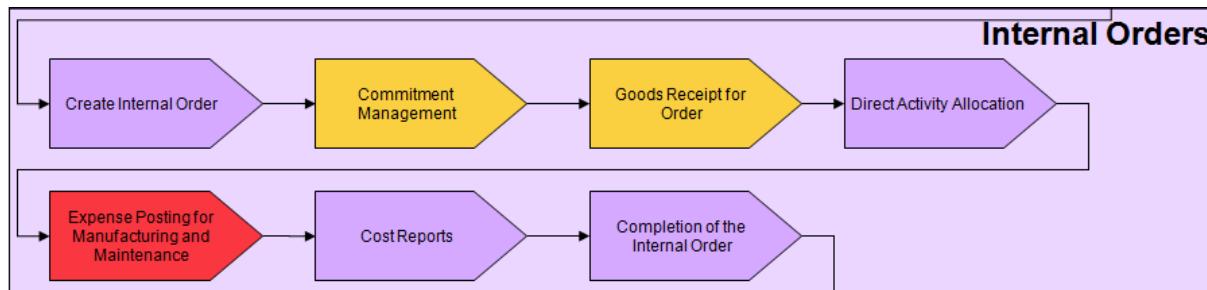


Figure 68: Process Overview: Internal Orders

4.2.1 Create Internal Order

Use the **Order Manager** to create the internal order. Therefore, choose

Accounting → Controlling → Internal Orders → Master Data → Order Manager (KO04)

1. If **requested**, enter controlling area **1000**.
2. Press **create** ().
3. Enter order type **0100** (internal order - development) and press **Enter**.
4. Enter the **Description** text **Product development costs xxxy**.
5. On the assignments tab, enter the following data:

- Business area	9900
- Profit center	PROF-xxxy
- Responsible CCtr.	CC-MF-xxxy
- Press Enter .	
6. Go to the **control data** tab page. **Release the order** (). The system status should change to **released (REL)**.
7. Define a settlement rule for periodic settlement to allocate 100% of the actual costs to the R&D cost center.

- Choose settlement rule (Settlement Rule).	
- Category (Cat)	CTR
- Settlement receiver	4500
- %	100
- Settlement type	PER
8. Confirm with **Enter** and go back to the previous step. Save the order.

With this settlement rule you define that
100 % costs you post on this internal order
 are allocated to **Cost Center 4500**

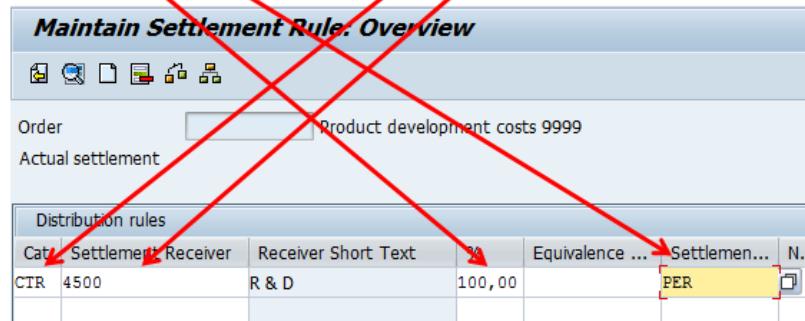


Figure 69: Settlement Rule for Internal Order: SAP-System-Screenshot

9. List the order number on your data sheet.

Internal order: _____

4.2.2 Commitment Management

Personnel working in product development focus, especially on improving the gearing. To determine whether improvements are possible or not, the department wants to purchase some gearings (Gearing-xxxy). Create an internal order and check the posted commitment.

Choose

Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known (ME21N)

1. In the order header, enter the subsequent data:

- **Vendor** *your vendor number from teaching unit 1*
- Press Enter
- **Purchasing organization** *1000*
- **Purchasing group** *000*
- **Company Code** *1000*

2. In the *item overview area*, enter the following information:

- **Account asset category (A) F (Order)** *Gearing-xxxy*
- **Material** *Gearing-xxxy*
- **PO quantity** *100*
- **Delivery date** *current date*
- **Plant (Plnt)** *1000*

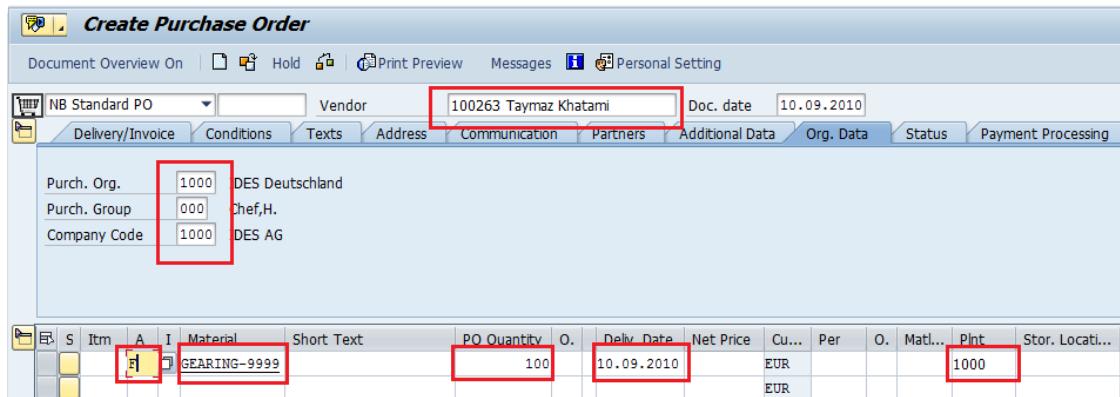


Figure 70: Create Purchase Order for Internal Order (1): SAP-System-Screenshot

3. Press *Enter*. The system issues an error message: “**Account 410000 requires account assignment that is relevant to cost accounting**“ and goes automatically to the **Account Assignment** tab.
4. In the order field, enter **your internal order number** and press *Enter*.

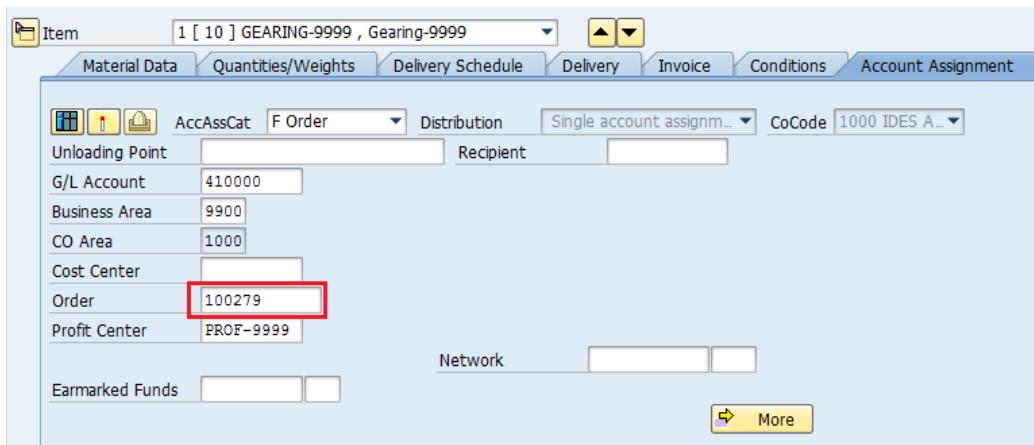


Figure 71: Create Purchase Order for Internal Order (2): SAP-System-Screenshot

5. The system retrieves the net price for the gearing from the conditions that you maintained for the vendor in the **procurement process** case study. Correspondingly, you are asked if you rather want to purchase a quantity of 500 order units to get a discount. Press *Enter* to skip the offer.
6. Confirm the next two messages regarding the quantity discount and the delivery date with *Enter* and save the delivery order.
7. Skip possible notifications with *save*.
8. List the number of the standard purchase order.

Standard purchase order: _____

Check, whether the commitment for your internal order was posted or not. Therefore, call up the following transaction

Accounting → Controlling → Internal Orders → Information System → Reports for Internal Orders → Plan/Actual Comparisons → Additional Key Figures → Orders: Actual/Plan/Commitment (S_ALR_87012999)

1. Enter the following information:

- Controlling area **1000**
- Fiscal year **current fiscal year**
- From period **current period**
- To period **current period**
- Plan version **0**
- In the first field or value(s), enter your **internal order number**.
- Choose **Execute**.

2. You can see that the corresponding purchase order value is listed for your internal order in the commitment column for cost element 410000 (the consumption account for OEM products). Thus, the commitment about 50000 € is assigned to your internal order.

Orders: Actual/Plan/Commitments

Cost elements	Actual	Commitment	Assigned	Plan	Available
410000 OEM products consumed		50.000,00	50.000,00		50.000,00-
* Costs		50.000,00	50.000,00		50.000,00-
** Balance		50.000,00	50.000,00		50.000,00-

Orders: Actual/Plan/Commitments

Cost elements	Purch. req.	Purchasing	Reserved	Total
410000 OEM products consumed		50.000,00		50.000,00
* Total		50.000,00		50.000,00

Figure 72: Report for Internal Order/Commitment: SAP-System-Screenshot

4.2.3 Goods Receipt for Order

The vendor was very quick and delivered the gearings. Post the goods receipt for the purchase order. Choose

Logistics → Materials Management → Inventory Management → Goods Movement → Goods Receipt → For Purchase Order → PO Number Known (MIGO)

1. Select the operation **A01 Goods Receipt** and the **R01 Purchase Order** reference from the corresponding drop-down fields.
2. Make sure that movement type **101** is selected.
3. Enter the **purchase order** number for your Gearings (the one you just created in 4.2.2) and choose **Enter**.
4. Select **position OK** at the bottom of the screen and enter * into the **delivery note** field.
5. Click the **post** button.
6. List the material document number.

Material document gearing: _____

4.2.4 Direct Activity Allocation

The manufacturing department worked 100 hours for the construction order. This expense is supposed to be allocated to the internal order as cost bearer like the material order before. To carry out a direct activity allocation, choose

Accounting → Controlling → Cost Center Accounting → Actual Postings → Activity Allocation → Enter (KB21N)

1. Enter controlling area **1000** if you have to.
2. Select screen variant (Scrn var.) **02 Order** and Entry type **L List entry**.
3. Enter the following data:

- Document date	<i>current date</i>
- Posting date	<i>current date</i>
- Version	<i>0</i>
- Cost Ctr.	<i>CC-MF-xxyy</i>
- SAtyTyp	<i>MFxxyy</i>
- Rec.order	<i>your internal order number</i>
- Total quantity	<i>100</i>

Items	Send. Cctr	SAtyTyp	Rec. Order	Total Quantity	U.	Text
0001	CC-MF-9999	MF9999	100279	100,0		HR
0000						

Figure 73: Direct Activity Allocation on Order: SAP-System-Screenshot

4. Confirm with *Enter* and *save* the document.
5. List the document number on your data sheet.

Activity allocation manufacturing: _____

4.2.5 Expense Posting for Manufacturing and Maintenance

As described in the note in chapter 3.2.3.3, you have to post the corresponding expense for an activity output to the cost centers. That is, your maintenance cost center has delivered 200 hours of work to the manufacturing cost center and the manufacturing cost center has delivered 100 hours of work to the internal order. These costs, which really occurred (wages and salary of employees), must be paid from the bank account.

At this point, you will post the 100 hours (manufacturing) for R&D as well as the 200 hours (maintenance) from the **direct activity allocation** in **one** document. The employees of both departments receive an hourly rate of 15 € (manufacturing: 600.000 € for 20 employees that work 2000 hours each). The automatically determined price from planning is 18,45 € for manufacturing, however, this price considers the allocation of cafeteria costs as well. Thus, the employees let the receivers of their work (controlling objects: sales orders, production orders, internal orders, other cost centers, etc.) pay for their food. Choose

Accounting → Financial Accounting → General Ledger → Posting → Enter G/L Document (FB50)

1. If necessary, enter controlling area **1000**.
2. Enter the following data:

- Document date	current date
- Posting date	current date
3. On items level enter in the first row:

- G/L account	420000
- D/C	S Debit
- Amount in doc. curr.	1845
- Cost center	CC-MF-xxyy
4. On items level enter in the second row:

- G/L account (second row)	430000
- D/C	S Debit
- Amount in document currency	3600
- Cost center	CC-MT-xxyy
5. On items level enter in the third row:

- G/L account (third row)	113100
- D/C	H Credit
- Amount in document currency	5445



In case you receive a message, select the third row and choose from the bottom of the screen. Enter the **current date** into the **due on** field. Choose . Save the document again.

3. Save the document and list its number.

Document number (Expense posting): _____

S...	G/L acct	Short Text	D/C	Amount in doc.curr.	L...	C...	Tra...	B...	P...	Cost cen...	Order
	420000	Direct labor ...	S Debit	1.845,00		1000		9900		CC-ME-9999	
	430000	Salaries	S Debit	3.600,00		1000		9900		CC-MI-9999	
	113100	Dte Bank (d...)	H Credit	5.445,00		1000					
						1000					

Figure 74: Expense Posting Maintenance and Manufacturing: SAP-System-Screenshot

4.2.6 Cost Reports

Next, check the effects of the commitment posting (goods receipt) and of the direct activity allocation on your internal order. Choose

Accounting → Controlling → Internal Orders → Information System → Reports for Internal Orders → Plan/Actual Comparisons → Additional Key Figures → Orders: Actual/Plan/Commitment (S_ALR_87012999)

1. Enter the following data:

- Controlling area	1000
- Fiscal year	<i>current fiscal year</i>
- From period	<i>current period</i>
- To period	<i>current period</i>
- Plan version	0
2. Enter your **internal order number** into the **or value(s)** field.
3. Choose **Execute**.

You can see that for your order, there is a zero listed in the commitment column and the corresponding costs were posted to the **actual** column. Moreover, there is a new row in which the costs from the manufacturing department were posted.

Thus, you have posted all the costs for the R&D project (Material, work force) on the internal order.

Commitment for the 100 Gearings is also cleared with the goods receipt, since the costs are no commitment anymore, but real costs. Now all the costs, including the manufacturing activity provided are posted to the actual costs column

Purchase order is balanced out, with the goods receipt

Orders: Actual/Plan/Commitments					
Orders: Actual/Plan/Commitments Date: 11.09.2010 01:17:34 Page: 2 / 4					
Order/Group	100279	Product development costs 9999	Reporting period	9 - 9 2010	
Cost elements	Actual	Commitment	Assigned	Plan	Available
410000 OEM products consumed	50.000,00		50.000,00		50.000,00-1.845,00-
MFT-9999 Manufacture-All-9999	1.845,00		1.845,00		
* Costs	51.845,00		51.845,00		51.845,00-
** Balance	51.845,00		51.845,00		51.845,00-

Orders: Actual/Plan/Commitments					
Orders: Actual/Plan/Commitments Date: 11.09.2010 01:17:34 Page: 3 / 4					
Order/Group	100279	Product development costs 9999	Reporting period	9 - 9 2010	
Cost elements	Purch.req.	Purchasing	Reserved	Total	
410000 OEM products consumed					
* Total					

Figure 75: Commitment cleared, Activities posted to Order: SAP-System-Screenshot

Again, take a look at the planned/actual cost comparison of your cost center group H1xxyy. Choose

Accounting → Controlling → Cost Center Accounting → Information System → Reports for Cost Center Accounting → Plan/Actual Comparisons → Cost Centers: Actual/Plan/Variance (S_ALR_87013611)

1. Enter the following data:

- **Controlling area** 1000
- **Fiscal year** current fiscal year
- **From period** current period
- **To period** current period
- **Plan version** 0
- **Cost center group** H1xxyy

2. Choose **execute**.

You can see that additional 5445 € were debited to the cost center and 5445€ were credited. If both cost centers manage to perform the planned activities of 3333.33 and 833.33 hours, respectively (see figure below), they would really deserve the food (allocation CC-CA-xxyy).

Primary costs (expenses) posted to the cost centers Manufacturing (Direct Labor Costs) and Maintenance (Salaries)

Cost centers: actual/plan/variance		Date: 11.09.2010	Page: 2 / 4
Cost Center/Group		Column: 1 / 2	
Person responsible:			
Reporting period:		9 to 9 2010	
Cost elements		Act. costs	Plan costs
417000 Purchased service		12.500,00	12.500,00
420000 Direct labor costs		1.845,00	50.000,00
430000 Salaries		3.600,00	12.500,00
470000 Occupancy costs		10.000,00	10.000,00
CAF-9999 Assess. CC-CA-999		12.500,00	12.500,00
MTI-9999 Maintenance-All-9		3.600,00	1.499,99
* Debit		44.045,00	88.999,99
CAF-9999 Assess. CC-CA-999		12.500,00-	12.500,00-
MFT-9999 Manufacture-All-9		1.845,00-	61.499,99-
MTI-9999 Maintenance-All-9		3.600,00-	14.999,99-
* Credit		17.945,00-	88.999,98-
** Over/underabsorption		26.100,00	0,01
			26.099,99
			*99900,00

Internal allocation of the costs using secondary cost elements

Cost centers: actual/plan/variance		Date: 11.09.2010	Page: 3 / 4
Cost Center/Group		Column: 1 / 2	
Person responsible:			
Reporting period:		9 to 9 2010	
Activity types		Act. acty	PlnActvty
MF9999 Manufacture-9999		100,0 HR	3.333,3 HR
MT9999 Maintenance-hours-9999		200,0 HR	833,3 HR

Activities provided by cost centers Manufacturing and Maintenance

Cost centers: actual/plan/variance		Date: 11.09.2010	Page: 3 / 4
Cost Center/Group		Column: 1 / 2	
Person responsible:			
Reporting period:		9 to 9 2010	
Activity types		Act. acty	PlnActvty
MF9999 Manufacture-9999		100,0 HR	3.333,3 HR
MT9999 Maintenance-hours-9999		200,0 HR	833,3 HR

Figure 76: Plan/Actual Comparison Cost Center Accounting: SAP-System-Screenshot

4.2.7 Excursus: Allocation Structure



At this point, you can find another brief customizing excursion, since allocation cost element MFT-xxyy will take a special role in settling the internal costs.

Go to:

IMG → Controlling → Product Cost Controlling → Cost Object Accounting → Product Cost by Order → Period-End Closing → Settlement → Create Allocation Structure

Select **allocation structure A1** and double-click the **assignments** folder in the left window. Select the line with the entry **025 (allocation)** and double-click on the **source** folder in the left window. You can see that the cost element group **OAS_ORDERS** is listed for the allocation structure A1 and the assignment 025.

During settlement, costs incurred under the primary and secondary **Cost Elements** by a sender are allocated to one or more receivers. An **allocation structure** comprises one or several settlement assignments. An assignment shows which costs (origin: cost element groups from debit Cost Elements) are to be settled to which receiver type (for example, cost center, order, and so on). Allocation structure A1 will be relevant later in this case study.

Go back to the SAP easy access menu and call up

SAP menu → Accounting → Controlling → Cost Element Accounting → Master Data → Cost Element Group → Change (KAH2)

1. First, check whether your controlling area (1000) is set or not. Therefore, select *Extras → Set Controlling Area* from the menu.
2. Enter the determined cost element group **OAS_ORDERS** (**Not OAS-ORDERS!**) into the cost element group field and confirm with **Enter**.
3. Select  **Cost Element** and enter your cost element **MFT-xxxx** into the first row.

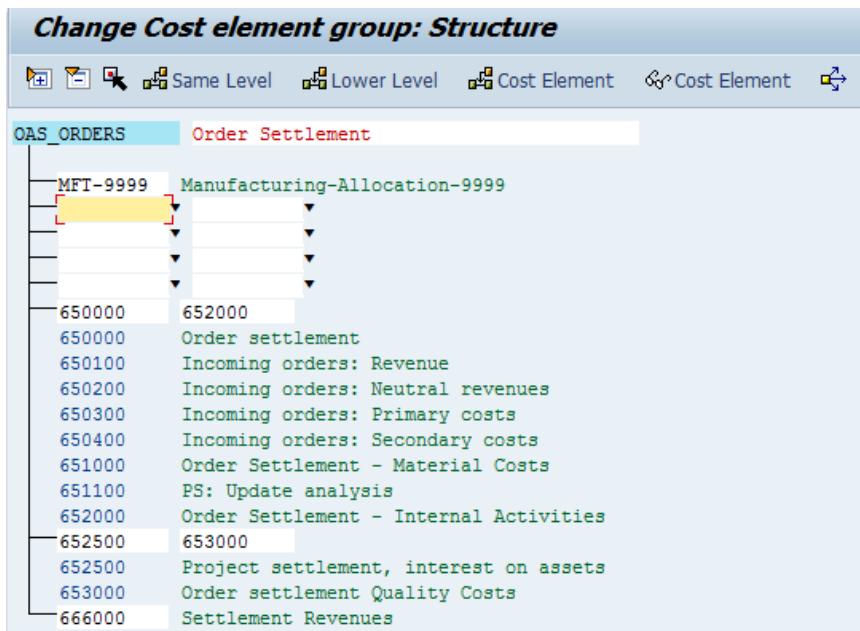


Figure 77: Cost Element Group OAS_ORDERS: SAP-System-Screenshot

4. Save your entries.

With assigning your cost element to the cost element group OAS_ORDERS as a consequence, you direct the system to post the allocation cost element type MFT-xxxx to the accounts that were assigned to cost element group OAS_ORDERS in customizing when later allocating the internal order. This step is required to make sure that the costs of the internal order can be transferred to the account assignment object (cost center R&D) in the sense of object accounting.

4.2.8 Completion of the Internal Order

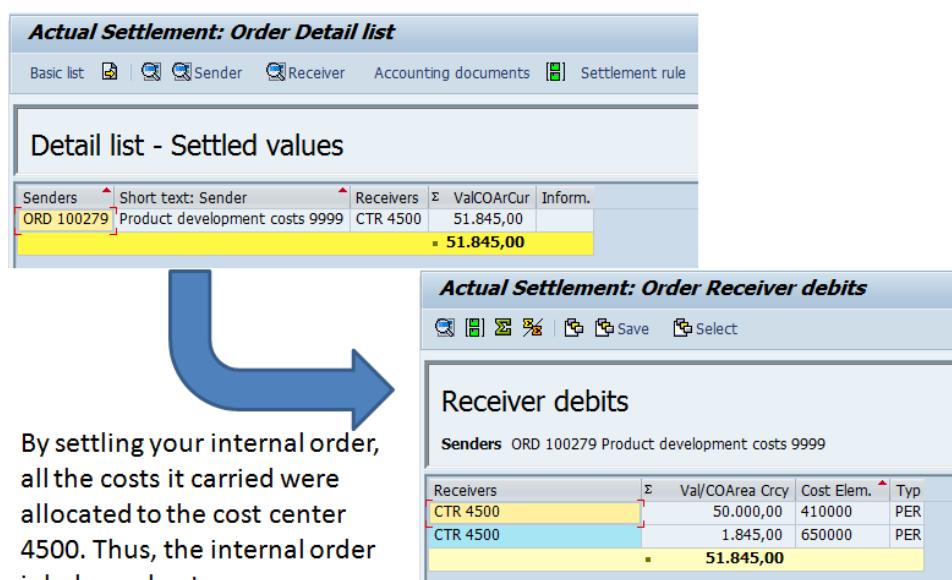
You posted costs for material (Gearing) and work force (100 hours manufacturing activity) on your internal order. The internal order acted as a cost collector for the R&D project. The settlement rule you entered in the internal order allocates all these costs to the cost center 4500. Now, carry out an actual costs settlement for your internal order. Use the current period as both: settlement and posting period.

Choose

**Accounting → Controlling → Internal Orders → Period-End Closing → Single Functions
→ Settlement → Individual Processing (KO88)**

1. Enter the following information:

- Order	<i>Number of your internal order</i>
- Settlement period	<u>Current period</u>
- Posting period	<u>Current period</u>
- Fiscal year	<u>Current fiscal year</u>
- Processing type	<i>Automatic</i>
- Test Run	<i>Deselect</i>
2. Choose *Execute*.
3. Choose the *detail lists* () button.
4. In the *sender* column, you can see your order number, in the *receiver* column, the R&D cost center is listed (4500).
5. Choose the *receiver* button to display details regarding cost allocation.



Actual Settlement: Order Detail list

Senders	Short text: Sender	Receivers	Σ ValCOArCur	Inform.
ORD 100279	Product development costs 9999	CTR 4500	51.845,00	
= 51.845,00				

Detail list - Settled values

By settling your internal order, all the costs it carried were allocated to the cost center 4500. Thus, the internal order is balanced out now.

Actual Settlement: Order Receiver debits

Senders	ORD 100279 Product development costs 9999
Receivers	Σ Val/COArea Crcy Cost Elem. Typ
CTR 4500	50.000,00 410000 PER
CTR 4500	1.845,00 650000 PER
= 51.845,00	

Figure 78: Settlement of Internal Order: SAP-System-Screenshot

Check one last time the effects on your internal order. Choose

Accounting → Controlling → Internal Orders → Information System → Reports for Internal Orders → Plan/Actual Comparisons → Additional Key Figures → Orders: Actual/Plan/Commitment (S_ALR_87012999)

1. Enter the following data:

- Controlling area	<i>1000</i>
- Fiscal year	<i>current fiscal year</i>
- From period	<i>current period</i>
- To period	<i>current period</i>
- Plan version	<i>0</i>

- Enter your **internal order number** into the **or value(s)** field.

Choose **Execute**.

2. You can see that the balance is zero in all tables. Thus, the internal order was allocated completely. The R&D cost center now bears the costs.

Cost elements	Actual	Commitment	Assigned	Plan	Available
410000 OEM products consumed MFT-9999 Manufacture-All-9999	50.000,00 1.845,00		50.000,00 1.845,00		50.000,00- 1.845,00-
* Costs	51.845,00		51.845,00		51.845,00-
410000 OEM products consumed 650000 Order settlement	50.000,00- 1.845,00-		50.000,00- 1.845,00-		50.000,00 1.845,00
* Settled costs	51.845,00-		51.845,00-		51.845,00
** Balance					

Figure 79: Internal Order Report: SAP-System-Screenshot

4.3 Elucidation



What have we learned so far?

You have learned what the purpose of internal orders is and how they are used in SAP CO.

4.3.1 Internal Order Types

Internal orders can be used for many different purposes:

- **overhead orders**
- **investment orders**
- **accrual orders**
- **orders with revenue**

4.3.2 Planning Internal Orders

Cost planning is usually carried out for orders with a long life cycle. There are three cost planning levels for planning internal orders:

Overall planning

- is the most important and fundamental form of internal order planning
- This type of planning is independent of Cost Elements and you use it to estimate the costs likely to be incurred for an internal order.
- Information on the internal order changes constantly during the planning phase. You can execute planning in any CO version.

Primary/secondary cost and revenue planning

- are used when you have detailed information on costs
- Each planning type is carried out for one year and covers cost-element-related planning of primary costs, revenues and activity inputs.
- In **primary cost planning**, you record the costs incurred by the consumption of goods and services originating outside of your business.
- To plan **revenues** in internal orders, you use special Cost Elements for the revenue element class for each chart of accounts.

Unit costing

- If you have access to more information on sources of supply, quantities and prices, you can perform unit costing taken from the overall planning.
- Unit costing allows you to plan in detail for an internal order at a lower level than with overall planning.
- You can also use detailed planning to execute detailed planning below the cost element level. This is useful when you have totaled a number of individual jobs and activities under one cost element.

- You use unit costing once information on supply sources, quantities and prices is available, and do so on an overall or an annual basis.

4.3.3 Posting to an Internal Order

You can get a better overview of costs that cannot be itemized at a cost center by using an internal order. An order can be real or statistical (i.e., only for information purpose). If it is a statistical posting, the controlling object that the internal order is attached to would receive the real posting.

You use actual postings to enter actual costs that enable up-to-date monitoring of the costs incurred by the organization. In this way, you can identify any variances at an early stage and correct them. Actual postings create totals records and line items. A totals record summarizes all the costs posted to the internal order under a particular cost element. Line items consist of document rows created during posting, and document the individual posting transaction.

Postings in Financial Accounting:

You can assign postings of primary costs directly to an internal order within Financial Accounting (for example, for external services and deliveries). The same applies to goods movements if you are not using the Materials Management component (MM).

Goods Movements in Materials Management:

In the MM component, you can make the following statistical postings to internal orders:

- purchase requisitions
- purchase orders
- When you create a purchase order that is statistically posted to an internal order, a commitment is created on the order. The commitment is converted to actual costs when the goods are received.
- goods receipts
- reservations
- goods issues
- A goods issue that refers to a material reservation in which an internal order number is stored, leads to the posting of actual costs on the internal order, automatically.

4.3.4 Commitment

A commitment is a contractual or scheduled commitment that is not yet reflected in Financial Accounting, but that will lead to actual expenditures in the future. Commitment management gives you an early recording and analysis of such commitments for their cost and financial effects. Commitments can be entered for the following objects:

- CO production orders
- production orders
- internal orders
- maintenance orders

- sales orders
- cost centers
- networks
- network activities
- projects (work breakdown structure elements)

SAP CO commitments management enables you to enter and analyze commitments at an early stage and, thus, to account for them in controlling.

Purchase orders or purchase requisitions lead to financial commitments with varying degrees of obligation. Commitments reserve funds for costs that will be incurred at a future date. Therefore, commitments must be included in funds monitoring.

Commitments occur in Purchasing, due to:

- purchase requisitions (purchase requisition commitment)
- purchase orders (purchase order commitment)

Commitments Management Flow

You must activate Commitments Management before you can use it.

The SAP Purchasing component is responsible for the external procurement of materials and services. The system displays the different types of business transaction in Purchasing (on the cost side) on the account assignment objects (such as internal order, cost center). It does this by using various commitment categories.

Process flow

- The system uses purchase requisitions to create purchase requisition commitments.
- A purchase order is created from purchase requisitions. This is a result of quotation processing and requests for quotations (RFQs) in purchasing. On the commitment side, purchase order commitments are created from purchase orders. Purchase order commitments reduce each purchase requisition commitment by referencing to a purchase requisition.
- Purchase order commitments are reduced according to the goods / invoice receipt.

4.3.5 Order Settlement

An internal order is usually used as an interim collector of costs and an aid to the planning, monitoring and controlling processes needed. When the job has been completed, you settle the costs to one or more receivers (cost center, fixed asset, profitability segment, etc.).

To be able to settle an order, you must have saved a settlement rule in each of the senders. This settlement rule determines where the costs are to be settled to. You can achieve this in two ways:

- **Settlement to One Receiver**

You use this basic form of order settlement to completely settle the costs collected on the internal order. This is either to a cost center or a G/L account under a settlement cost element. The system generates the appropriate settlement rule from the information contained in the internal order master data.

- **Comprehensive Settlement**

Definition of a comprehensive settlement rule gives you more settlement possibilities, for example, you can:

- settle costs to a wide range of receivers (project, sales order, profitability segment,etc.)
- specify how the costs are to be distributed between receivers
- define the Cost Elements under which the sender is to be credited and the receivers debited

5 Profit Center Accounting

This section gives you an overview of the SAP Enterprise Controlling component Profit Center Accounting. Although EC-PCA is not part of SAP CO, it is closely linked with it.

5.2 Theory: Profit Center Accounting (SAP EC-PCA)



The focus of Profit Center Accounting is to determine profit for internal areas of responsibility. Profit Center Accounting (EC-PCA) lets you determine profits and losses by profit center by using either period accounting or the cost-of-sales approach.

Theory A profit center is an organizational unit in accounting (CO and FI) and reflects a management-oriented structure of the organization for the purpose of internal control. You can assign balance sheet items (asset portfolio, payables and receivables and material stocks, work in process) to profit centers, allowing you to analyze a company's fixed assets by profit center and, thus, allowing to use profit centers as investment centers. This also makes it possible for you to analyze a number of key figures by profit center, including return on investment, working capital and cash flow.

The New General Ledger Accounting contains profit centers as part of Financial Accounting (in "old" General Ledger profit centers were not included and, thus, were only part of Controlling). Like company codes, profit centers can be used as a dimension for reporting. This means that financial statements can be created for profit centers as standard.

A profit center can represent different organizational objects:

- an organizational unit within the company (such as a plant)
- a line of business
- a geographical location

You should remember the following regarding profit centers: A profit center is a "profit" area of responsibility and must not be confused with a cost center. Since the release of mySAP ERP 2004 (ECC 5.0), profit centers are not separate components, but rather an integral part of the General Ledger itself. But unlike the other dimensions in new General Ledger Accounting, profit centers are still considered as master data, despite being organizational units.

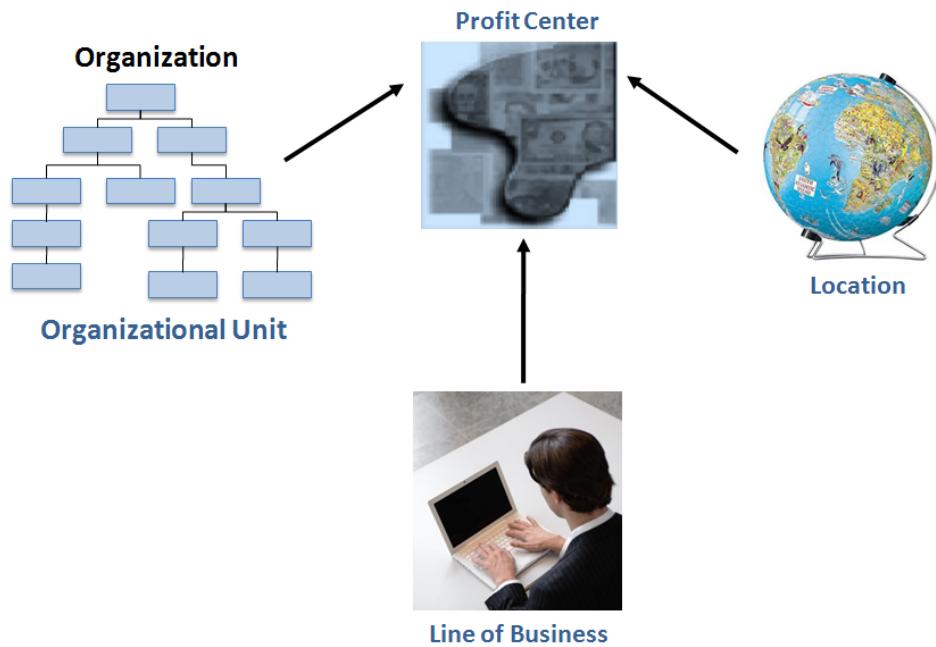


Figure 80: Profit Center Accounting

5.2.1 Typical Questions in Profit Center Accounting

A profit center is a management-oriented organizational unit used for internal controlling purposes. When a company is structured in profit centers, the areas of responsibility can be evaluated and the responsibilities can be delegate to distributed units. Thus, profit centers represent practically individual companies within a company. Profit Center Accounting (ECP-PCA) allows for creating profit centers according to products (product lines, divisions), geographical factors (regions, offices, or production sites) or functions (production, sales).

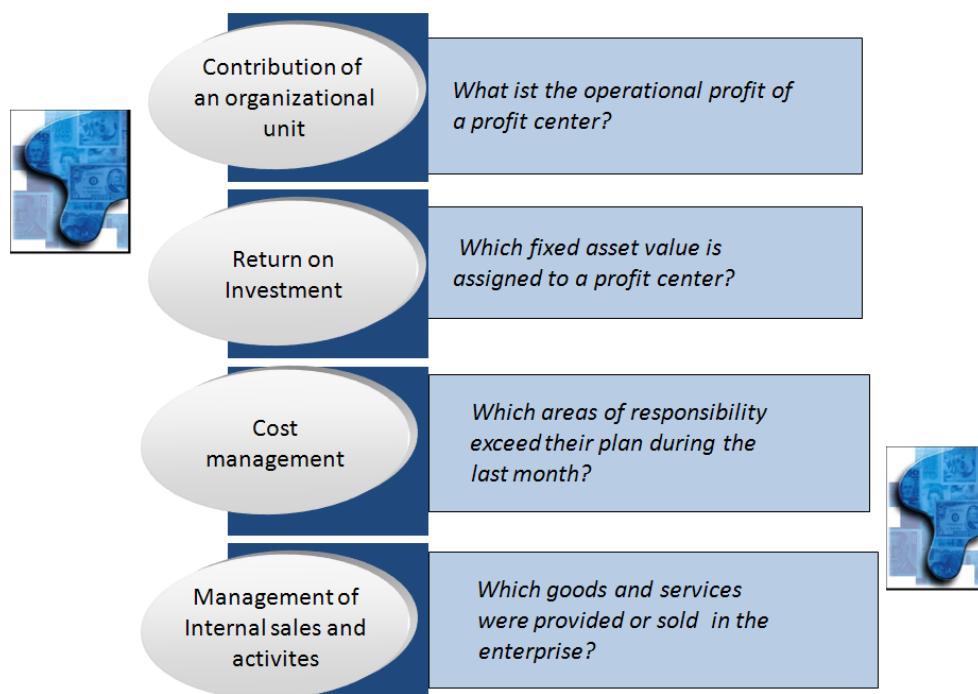


Figure 81: Typical Questions in Profit Center Accounting

5.2.2 An Internal Perspective of Profit Center Accounting

Using Profit Center Accounting, you can determine the internal measurements of profitability for the entire company or parts of it. This internal view on profitability represents the extent to which a particular profit center meets the profitability goal for which it is responsible.

Profit center assignment logic in Management Accounting:

- If controlling is active, each posting to a revenue or expense account in SAP FI that was also created as cost element in CO requires an account assignment object. Thus, you specify where in CO revenue or expenses reside. Examples of real account assignment objects are cost centers, internal orders, production orders or event objects. Please note that profit centers are **not** real account assignment objects.
- There is a profit center field in the master records of controlling objects. When Profit Center Accounting is active, the different controlling objects are assigned to the entered profit center. This assignment causes the system to generate a statistical (additional) posting in EC-PCA to the corresponding profit center for each debit or credit posting.
- The Assignment Monitor provides you with an overview of all the assignments you have made for various objects, and supports you when you make or change assignments.

What does "not real accounting object" mean?

Profit Center Accounting is a statistical accounting component. That is, the postings in EC-PCA are statistical postings, since the profit center is not itself an account assignment object such as cost center, internal orders, WBS-elements/projects, production orders, etc., in Controlling. Thus, when a transaction takes place in another component and this transaction is relevant to any profit center, then the responsible profit center records this transaction statistically, for reporting and analysis purposes only. You divide your company into profit centers by assigning all the objects which contain profit-related data to your profit centers. The following data is transferred to Profit Center Accounting:

- Revenues and sales input - through assignment of sales document items
- Direct costs - through assignment of production orders and cost objects
- Overhead costs - through assignment of account assignment objects from Overhead Cost Controlling (cost centers, orders, etc.)

As mentioned previously, cost objects can be assigned to profit centers. If these cost objects are planned, it is possible to automatically plan the profit centers, as any planning data posted elsewhere will be statistically posted to the profit centers.

The goal of Profit Center Accounting is to measure the profitability of areas of responsibility within the organization.



Figure 82: An Internal Perspective of Profit Center Accounting

5.2.3 Data Flows to Profit Center Accounting

Before analyses of profit center data can take place, the system must summarize all the profit-related postings in Profit Center Accounting. The following data is transferred to Profit Center Accounting:

- all postings for revenue and Cost Elements (assignment to the profit center using the Management Accounting account assignment object)
- expense and revenue accounts that are posted to using logistics transactions
- balance sheet accounts and other expense and revenue accounts (optional)

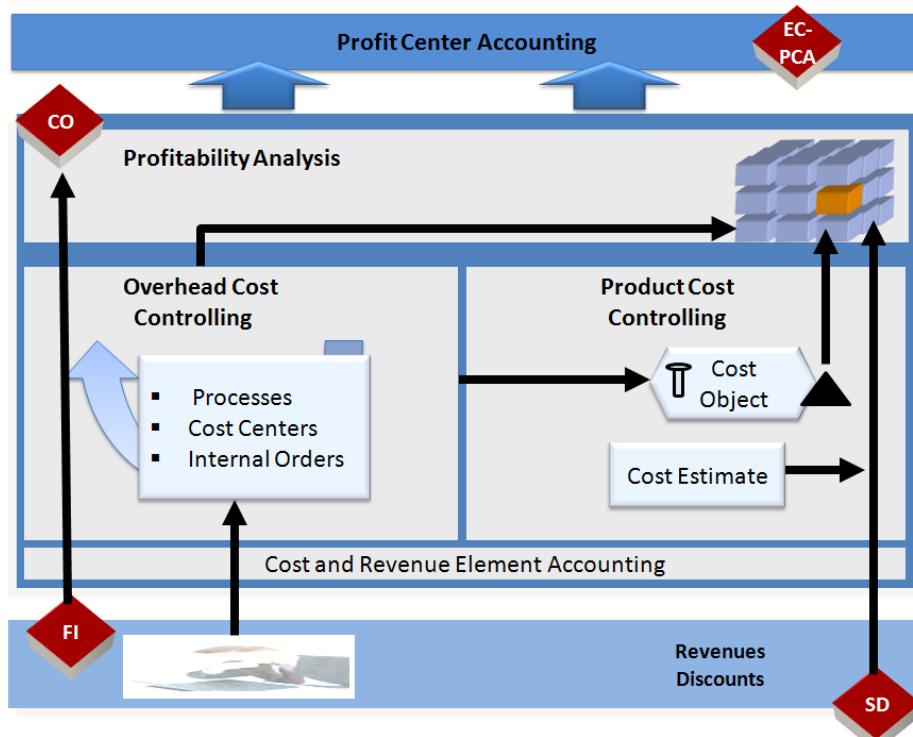


Figure 83: Data Flows to Profit Center Accounting

5.2.4 Profit Center Reporting

Profit Center Accounting provides the tools to draw conclusions on the company-internal aspects of profitability. Thereby, the internal view of profitability displays the success of a given profit center at meeting the profitability goal for which it was given responsibility.

The information system in Profit Center Accounting is used for evaluating plan and actual data of a profit center. The SAP standard delivery already includes many standard reports. Furthermore, own reports can be created. Reports can be executed for profit centers or profit center groups.

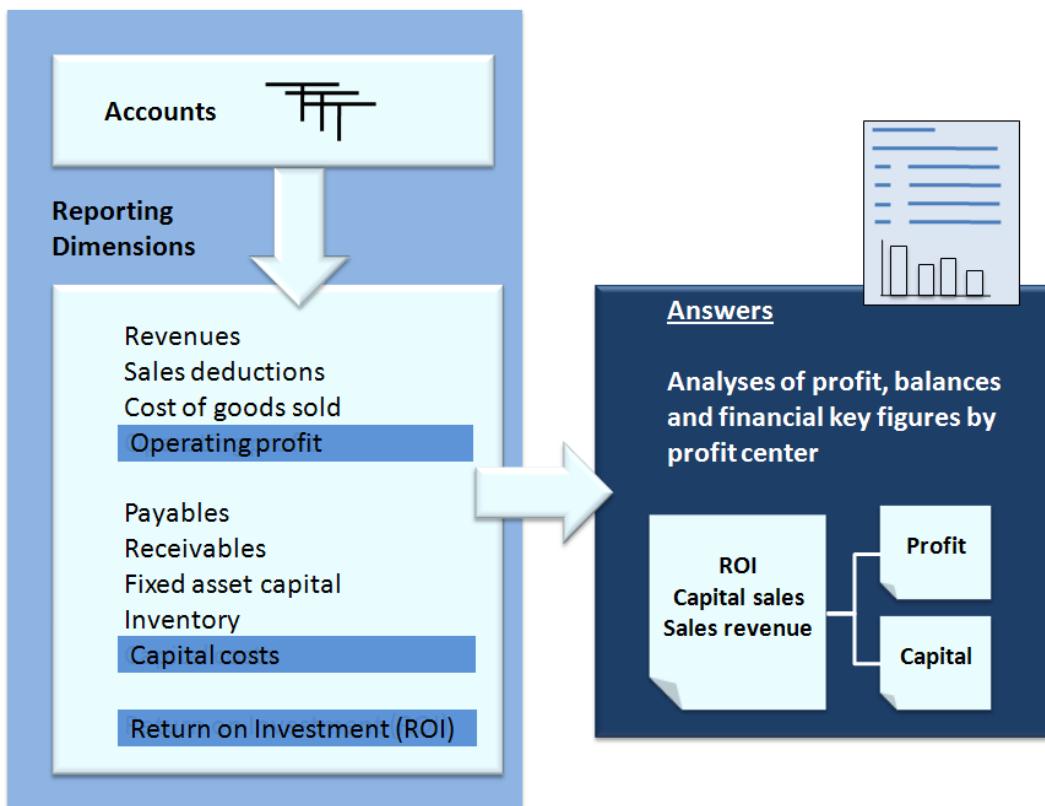


Figure 84: Profit Center Reporting

5.3 Practice: Profit Center Accounting (SAP EC-PCA)



Use Profit Center Accounting to analyze the performance of your profit center.

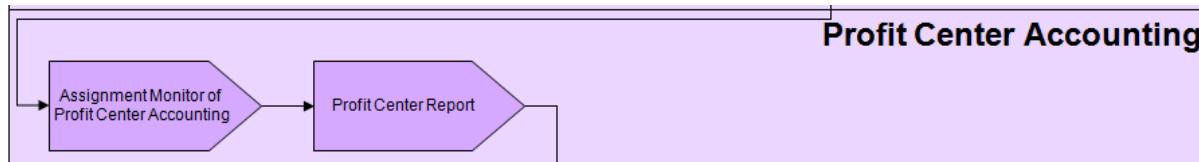


Figure 85: Process Overview: Profit Center Accounting

5.3.1 Assignment Monitor of Profit Center Accounting

First, you have to ensure that all production cost centers are assigned to profit centers. Execute the assignment monitor for cost center category 1 (production).

Choose

Accounting → Controlling → Profit Center Accounting → Master Data → Assignment Monitor (1KE4)

1. Select **Assignment Monitor → Cost Centers → Non-Assigned** from the menu.
2. If required, enter controlling area **1000**.
3. Enter **1 (production)** into the **cost center category** field. Accept the default value in the **date** field.
4. Deselect **display assigned Cost Centers also**.
5. Choose **Execute**.
6. You can see that several cost centers are not assigned to profit centers. Your cost center should not be amongst these, since it is assigned to Prof-xxxx.

5.3.2 Profit Center Report

You want to check all plan and actual costs posted to the profit centers of your company in controlling area 1000. Moreover, you want to display these data quarterly for your profit center **PROF-xxxx**. Create the report profit center list: plan/actual for the current period and plan version 0. Execute the report for the profit center group **8A-ALL-PRCTR.GLPTC**.

Therefore, choose

Accounting → Controlling → Profit Center Accounting → Information System → Reports for Profit Center Accounting → List-Oriented Reports → Profit Center List: Plan/Actual (S_ALR_87009712)

1. Enter the following data:

- Controlling area	1000
- Fiscal year	current year
- From period	current period
- To period	current period
- Plan version	0
- Profit center group	8A-ALL-PRCTR.GLPCT

2. Choose **Execute**.

3. Double-click on your profit center **PROF-xxyy**.

4. Select the quarterly report **PrCtr Grp: Quarter comp, actual** with a double-click.

5. **Which costs incurred in this quarter at your profit center and what are the total costs? List the answer on your datasheet.**

5.4 Elucidation



What have we learned so far?

You got an overview of Profit Center Accounting in SAP ERP.

What is a Profit Center?

The focus of Profit Center Accounting is to determine profit for internal areas of responsibility. A profit center is a management-oriented organizational unit used for internal controlling purposes. It allows structuring a company into areas of responsibility and uses the structure in reporting. The profit center structure can be considered as internal market of an organization, where each profit center represents a segment. Thereby, each profit center can be evaluated regarding its success and costs.

The essential difference between a profit center and a business area and/or profitability segment is that profit centers are used for internal control, while business areas and profitability segments are more geared toward an external viewpoint.

The profit center differs from a cost center in that cost centers merely represent the units in which capacity costs arise, whereas the person in charge of the profit center is responsible for its balance of costs and revenues.

What could a profit centers look like in a real company?

- An organizational unit within the company (such as a plant): You create a profit center, which is responsible for any process that is accomplished in a plant. For instance, all production orders processed in this plant are also recorded statistically on the profit center. You can use this data to analyze the performance of the plant.
- A line of business: You define a profit center for a particular department in the company, which is responsible for selling a particular product. You can analyze the performance of this department, since all costs and revenues from this product are also recorded on the profit center.

Profit Center and General Ledger

- With the New General Ledger, profit centers can be entered in a G/L posting directly. That is, when you post a SAP FI transaction (e. g. in transaction FB50) you can enter the responsible profit center directly in the document. With this assignment, the posting is also recorded from a profit center view. Consider that the posting on the profit center is only statistical.
- Like company codes, profit centers can be used as a dimension for reporting. This means that financial statements can be created for profit centers as standard.

Profit Center and other Master data

- You can assign balance sheet items (asset portfolio, payables and receivables and material stocks, work in process) to profit centers that allow you to analyze a company's fixed assets by profit center and, thus, allowing to use profit centers as investment centers.

- This also makes it possible for you to analyze a number of key figures by profit center, including return on investment, working capital and cash flow.

5.4.1 An Internal Perspective of Profit Center Accounting

Using Profit Center Accounting, you can determine the internal measurements of profitability for the entire company or parts of it.

Account assignment logic in Management Accounting:

- If controlling is active, each posting to a revenue or expense account in SAP FI that was also created as cost element in CO requires an account assignment object.
- Please note that profit centers are **not** real account assignment objects and are only used for statistical purposes (e.g., reporting, analyzing)
- There is a profit center field in the master records of controlling objects. For instance, when creating your cost centers in teaching unit 7, you entered the profit center in this field. With this specification (and Profit Center Accounting being active), all expense- and revenue-relevant postings made to the cost centers cause the system to generate a statistical (additional) posting in EC-PCA to the corresponding profit center. Thus, you can collect all costs and revenues on the profit center and evaluate the performance of this unit in the company.
- The Assignment Monitor provides you with an overview of all the assignments you have made for various objects, and supports you when you make or change assignments.

What does "not real accounting object" mean?

You can assign a profit center to many controlling-relevant objects like cost center, internal orders, WBS-elements/projects, production orders, etc., and, thus, make this organizational unit responsible for those objects.

Now, when you make a posting for those objects, e.g., posting costs on a cost center or retrieving revenues from a sales order, these postings are also recorded on the assigned profit center. Thereby, the posting on the profit center is only statistical. That is, it is only used for reporting and analysis. It is not a real value transfer, money increase or anything else. The corresponding real posting is recorded on the real cost object (cost center, sales order, etc.).

Business example:

Profit center X is responsible for Speedstarlett production. Speedstarletts are produced on work center Y1, Y2 and Y3, which are assigned to cost centers Z1, Z2, and Z3. Therefore, the three cost centers are assigned to profit center X. Now you produce the Speedstarlett and all costs occurring during production are settled from the production order to the cost centers. These costs are real costs! Simultaneously, the same amount of costs is recorded on the profit center on a statistical basis. Now you can use profit center reporting to analyze the costs incurred for Speedstarlett production on the three work centers/cost centers.

5.4.2 Data Flows to Profit Center Accounting

You assign cost objects to profit centers.

You divide your company into profit centers and assign all cost objects which contain profit- and (cost-) related data to your profit centers.

When planning these cost objects, it is possible to automatically plan the profit centers, as any planning data posted elsewhere will be statistically posted to the profit centers.

Before analyses of profit center data can take place, the system must summarize all the profit-related postings in Profit Center Accounting. The following data is transferred to Profit Center Accounting:

- all postings for revenue
- revenues and sales input - through assignment of sales document items
- expense and revenue accounts that are posted to using logistics transactions

- all postings for Cost Elements
- direct costs - through assignment of production orders and cost objects
- overhead costs - through assignment of account assignment objects from Overhead Cost Controlling (cost centers, orders, etc.)

- balance sheet accounts and other expense and revenue accounts (optional)

5.4.3 Profit Center Reporting

- tools for drawing conclusions on the company-internal aspects of profitability (internal view of profitability displays the success of a given profit center)
- comparison of profitability goals with actual data (plan/actual comparison)
- information system in PCA provides standard reports
- own reports can be created

6 Profitability Analysis

This section gives you an overview of Profitability Analysis in SAP CO.

6.1 Theory: Profitability Analysis (SAP CO-PA)



Theory

Profitability analysis (CO-PA) allows for evaluating the profitability of segments in company-external markets. These segments can be defined according to products, customers, orders or any combination of these, or strategic business units such as sales organizations or business areas, with respect to your company's profit or contribution margin.

Profitability analysis aims at providing market-oriented decision support for the board of directors, sales and distribution, marketing, planning and for other departments of a company.

6.1.1 Typical Questions in Profitability Analysis

The aim of Profitability Analysis is to provide the board of directors and company departments of sales and distribution, marketing, planning and other groups in the organization with market-oriented decision support.

Thereby, profitability analysis focuses on external markets (contrastingly to profit centers, which focus on internal cost and revenue structures of a company and, thus, on company internal performance).

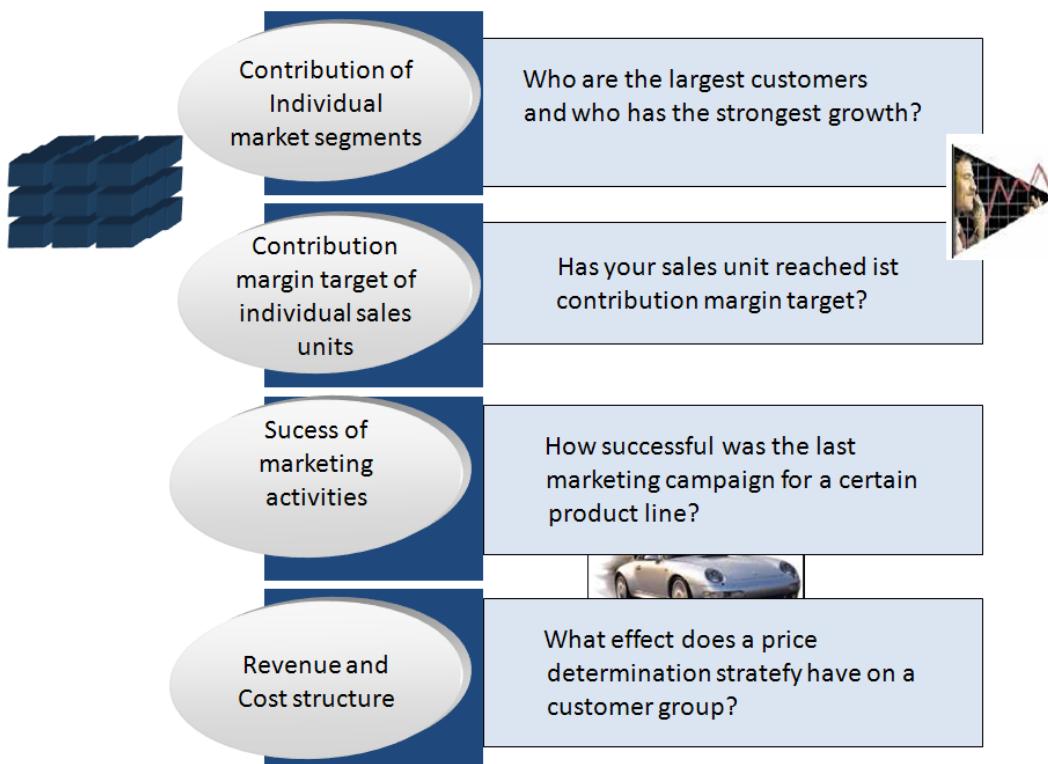


Figure 86: Typical Questions in Profitability Analysis

6.1.2 Profitability Analysis

Profitability Analysis is an application in Management Accounting and provides two forms of profitability reporting: costing-based and account-based.

Costing-based Profitability Analysis

- Has reports that display values by value field (flexibly defined key figures).
- Can be expanded with other anticipated values, such as accrued freight costs.
- Uses special database tables.
- Produces revenues and cost of sales simultaneously when the billing document is calculated.

Account-based Profitability Analysis

- Has reports that display values by cost element and revenue element.
- Reconciles directly with Financial Accounting at account level.
- Shares data tables with other Management Accounting applications such as Cost Center Accounting.
- Posts revenues when the billing document is created, but updates cost of sales at the point of goods issue.

Profitability Segment

Profitability segments are the most important structure in Profitability Analysis.

Based on the combination of characteristic values, the system automatically creates the affected market segment (called profitability segment) during a posting.

Characteristics answer the question: “Which aspect do I want to evaluate?” Examples of characteristics are division, regions, products or customers.

Characteristic values answer the question: “What values can I have for the characteristics?” Examples of characteristic values are “region south” and “region north”.

The **value fields** answer the question: “Which statistical key figures do I want to monitor and analyze?” Examples of value fields are gross sales, surcharges, discounts and cost of sales.

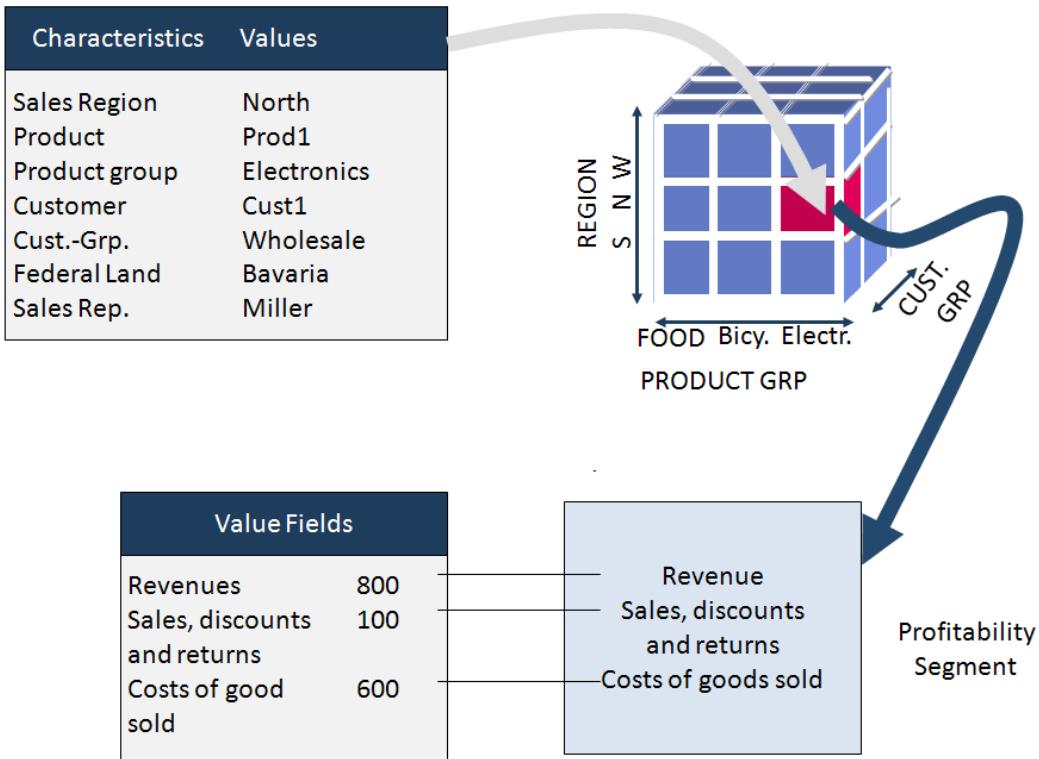


Figure 87: Profitability Segment

6.1.3 Data Flows in Profitability Analysis

The data from sales order management is one of the key sources of information for Profitability Analysis. In costing-based Profitability Analysis, information can be taken at two points in the sales order cycle: when an order is created or changed (optional) and when an invoice is generated for an order. In account-based Profitability Analysis, information can be taken at two points in the sales order cycle: when a goods issue is posted and when an invoice is generated for the goods issue.

Costs from other areas of Management Accounting can be transferred periodically to Profitability Analysis using activity and template allocations, settlements and assessments.

Direct assignments can also be made manually from Financial Accounting to Profitability Analysis.

To display all overhead costs in Profitability Analysis, you allocate the overhead costs that were not allocated to Product Cost Controlling to Profitability Analysis. You have various options for doing this:

- Allocation of internal activities
- Assessment
- Order settlement
- Project settlement

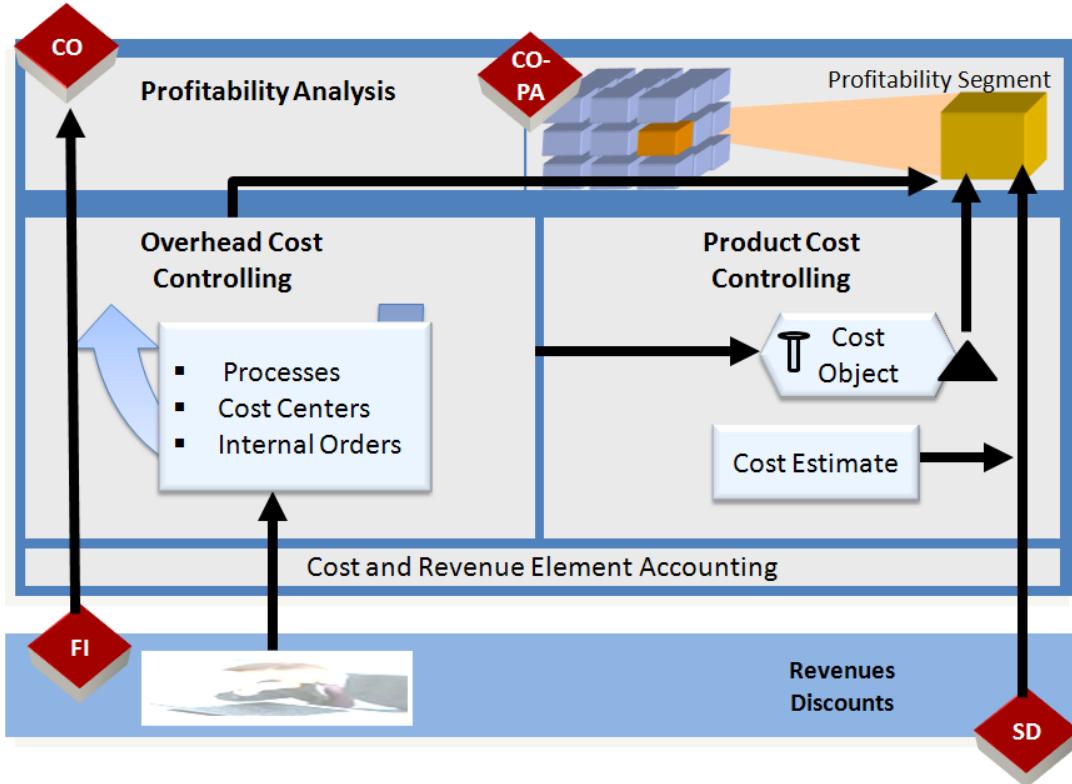


Figure 88: Data Flows in Profitability Analysis

6.1.4 Profitability Analysis per Market Segment

The CO-PA information system uses an online reporting tool - called “drilldown reporting” - which lets you evaluate the data collected in Profitability Analysis. With this tool, you can select the desired dataset according to any of the characteristics in your CO-PA system. When you use the interactive drilldown reporting tool, you can draw on any important business indicators (key figures) you wish. You can also perform variance analyses (plan/actual comparisons, fiscal year comparisons, comparisons of profitability segments, etc.). You can display several profitability segments for any key figure or several key figures for any profitability segment.

The profitability of a particular product group sold to a particular customer can be evaluated by using Profitability Analysis. The profitability analyses can be configured in a way that allows you to use particular characteristics that apply to defining market segments of your company. Each specific combination of characteristic values (e.g., selling product A to customer Y) defines a profitability segment.

You also need to specify which of the values that affect profitability are to be analyzed for this object. These values are key figures. You can, for example, define which revenue types and expense/cost categories are to be used for determining a value for the trade margin according to the requirements of your enterprise. Profitability Analysis also gives you the option of choosing relevant values for the different users of your enterprise. If different types of users define the trade margin differently, you can define different key figures for each trade margin according to each specific requirement.

Profitability Analysis includes a multidimensional reporting tool for creating reports that analyze data for any market segment and any profitability measure.

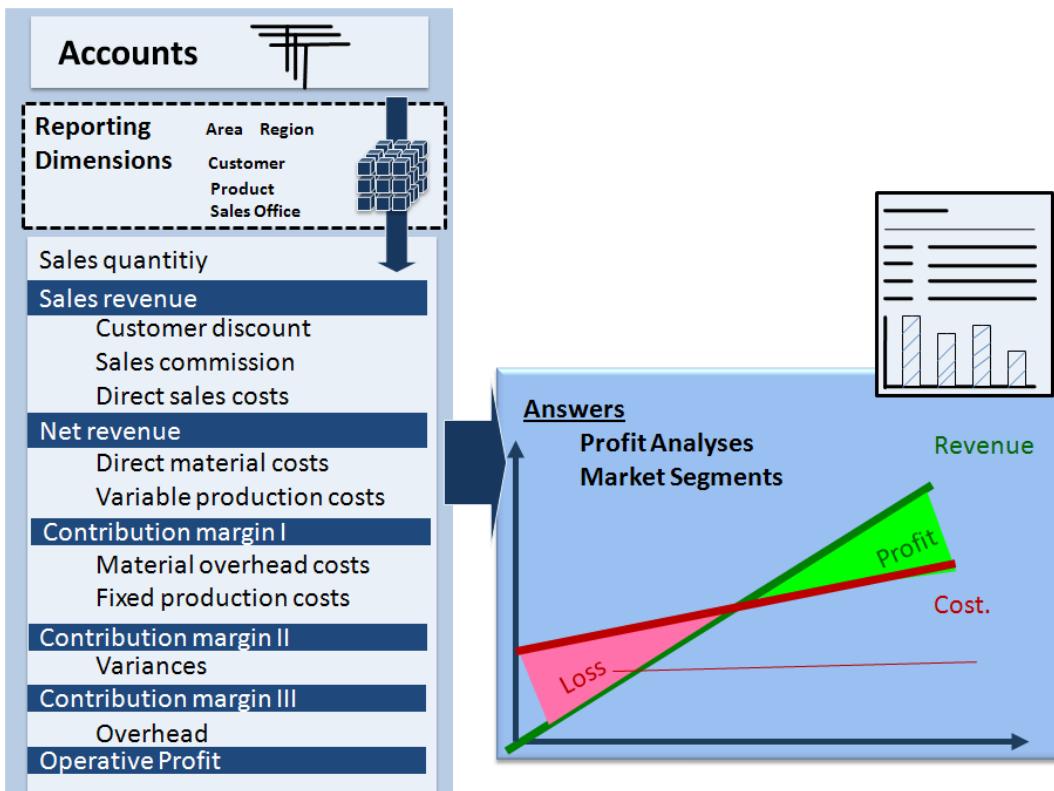


Figure 89: Profitability Analysis per Market Segment

6.2 Practice: Profitability Analysis (SAP CO-PA)



Evaluate the results of your company. Carry out a report for operating concern IDEA in Profitability Analysis. Carry out the Actual data report IDES-050 for the current fiscal year and version 0 (actual data) to display the results in the different market segments.

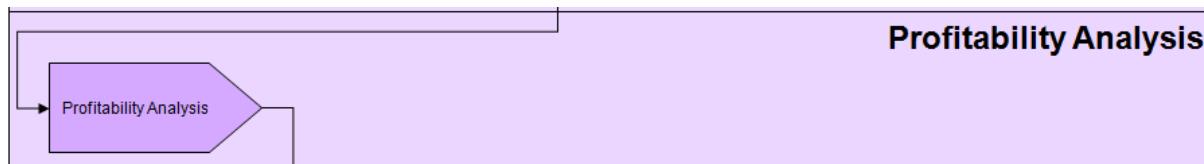


Figure 90: Process Overview: Profitability Analysis

Choose

Accounting → Controlling → Profitability Analysis → Information System → Execute report (KE30)

1. On the “setting operating concern” screen, enter **IDEA** into the operating concern field and select the **costing-based** button.
2. Press **Enter**.
3. Select report **IDES-050** with a double-click in the left frame.
4. Enter the following data:
 - Sales Org. **1000**
 - Period from **001. of current year (e. g. 2011)**
 - Period to **012. of current year (e. g. 2011)**
 - Plan/Act Indicator **0**
 - Version **clear this field**
 - Record **F**
5. Select **Graphical report output**.
6. Press **Execute**.

The system displays a report with the characteristics Division, Customer and Product in the left frame. In the middle frame, you see the characteristic values according to the selected characteristic, e.g., Division 00, 03, 07. Furthermore, you see the value fields like Sales Quantity, Gross Revenue, etc.

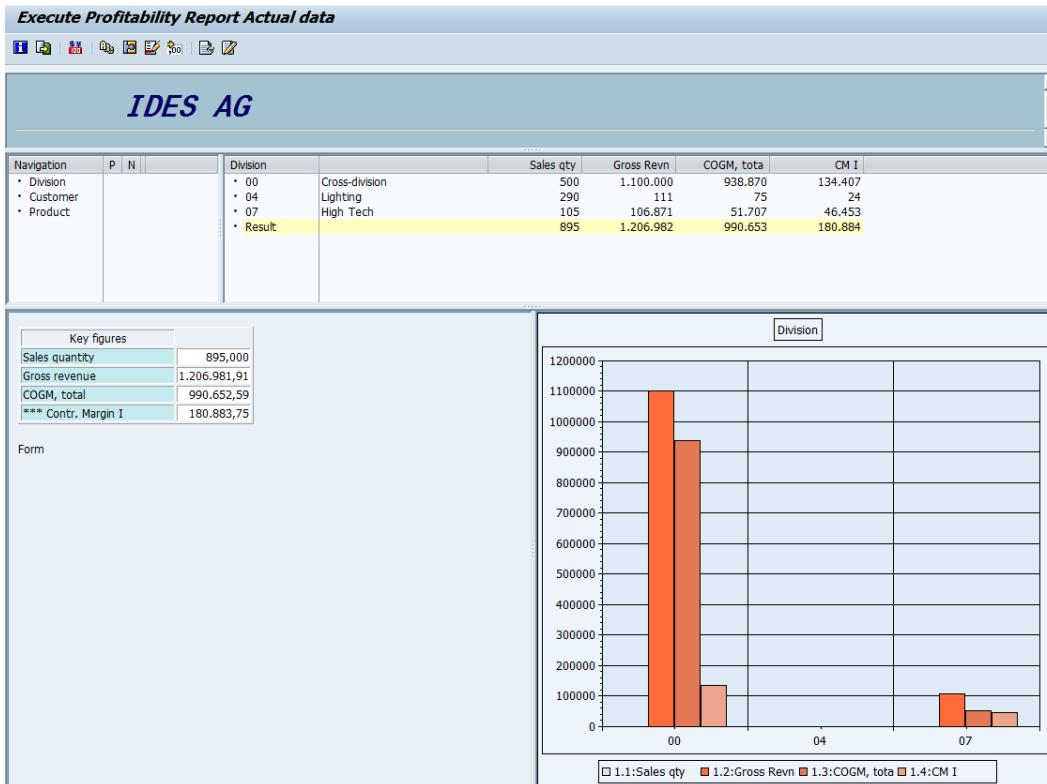


Figure 91: Market Segment Analysis: SAP-System-Screenshot

7. Break down the report according to division 00 (cross-division) and display the sales and revenue figures according to the divisions. Therefore, double-click on division 00.
8. Calculate the totals for the four rows displayed (Settings/Totals row → Totals row above). Answer the following questions:

What is the most common amount each customer contributes to division 00?

List the total figures for

Products sold (Sales qty): _____

Gross Revenue: _____

Production Costs (COGM, total): _____

Contribution Margin (CM I): _____

Of course, you can use the SAP tools provided in CO-PA for more sophisticated analyses. However, for differentiated, specialized and complex analyses, SAP offers the product SAP Business Intelligence.

6.3 Elucidation

What have we learned so far?



You got an overview of Profitability Analysis in SAP ERP.

The application CO-PA lets you analyze the profitability of segments of a company's market - structured according to products, customers, orders and summarizations of these and other characteristics - and organizational units such as company codes or business areas. The aim is to provide your sales, marketing, planning and management organizations with decision-support from a **market-oriented viewpoint**.

Forms of Profitability Analysis

Two forms of Profitability Analysis are supported: costing-based and account-based (which can be used simultaneously in one system).

Costing-based Profitability Analysis is the form of profitability analysis that groups costs and revenues according to value fields and costing-based valuation approaches both of which you can define yourself. It guarantees you access at all times to a complete, short-term profitability report.

Costing-based Profitability Analysis

- Has reports that display values by value field (flexibly defined key figures).
- Can be expanded with other anticipated values, such as accrued freight costs
- Uses special database tables.
- Produces revenues and cost of sales simultaneously when the billing document is calculated.

Account-based Profitability Analysis is a form of profitability analysis organized in accounts and using an account-based valuation approach. The distinguishing characteristic of this form is its use of cost and revenue elements. It provides you with a profitability report that is permanently reconciled with financial accounting.

Account-based Profitability Analysis

- Has reports that display values by cost element and revenue element
- Reconciles directly with Financial Accounting at account level
- Shares data tables with other Management Accounting applications such as Cost Center Accounting
- Posts revenues when the billing document is created, but updates cost of sales at the point of goods issue

Data Flows in Profitability Analysis

Profitability Analysis retrieves its data from various sources within SAP ERP. Thereby, postings to profitability segments can be carried out from the following components:

- **Sales Order Management (SAP SD):**

- **Costing-based Profitability Analysis:** Cost and revenue information can be taken at two points in the sales order cycle: when an order is created or changed (optional) and when an invoice is generated for an order.
- **Account-based Profitability Analysis:** Cost and revenue information can be taken at two points in the sales order cycle: when a goods issue is posted and when an invoice is generated for the goods issue.
- **Periodic overhead cost allocation in Management Accounting:** Costs from other areas of Management Accounting can be transferred periodically to Profitability Analysis using activity and template allocations, settlements and assessments.
 - To reflect all the actual costs from Overhead Cost Controlling in Profitability Analysis, you need to transfer the cost center costs and business processes which are not directly attributable to the production process. You can transfer these costs to any profitability segments you wish and, thus, assign them to any level of your contribution margin hierarchies. That way, you can assign them to the level that best reflects the cause of the overhead.
 - Example: You can assign the costs that arose in the marketing for a certain customer group to that particular customer group in CO-PA.
- **Financial Accounting:** Direct assignments can also be made manually from Financial Accounting to Profitability Analysis. When the FI document is posted, the system creates a line item in CO-PA and updates the segment level for each posting line assigned to a profitability segment. The values and quantities that have been posted are transferred to the corresponding value and quantity fields in Profitability Analysis.

Profitability Analysis Structures

To use Profitability Analysis (CO-PA), you have to create structures first. The possible valuation levels are determined in the creation of *structures*. To create the structures, you need to define the **operating concern** as well as the **characteristics** and **value fields** belonging to the operating concern. An operating concern represents an organizational unit in your company for which the sales market has a uniform structure. It is the valuation level for Profitability Analysis (CO-PA).

Using the SAP master data (customer, product, customer hierarchy) or CO-PA derivation rules, the system can derive additional characteristics based on the ones entered manually or transferred from primary transactions. The combination of characteristic values forms a multidimensional **profitability segment** for which you can analyze profitability by comparing its costs and revenues.

A profitability segment is an object within Profitability Analysis to which costs and revenues are assigned. A profitability segment corresponds to a market segment. You can calculate the profitability of a profitability segment by comparing its sales revenues against its costs.

A profitability segment in an operating concern is defined by a combination of characteristic values. Characteristics can be concepts already available in the SAP System (customer, product, sales organization, etc.) or you can define your own concepts (such as "order size class"). During a posting, the system uses the combination of **characteristic values** to automatically create the affected market segment and posts the cost or revenue to it. The specifications you

make for the characteristic values form the basis for the automatic determination of the profitability segment.

Components of a Profitability Segment

- **Characteristics** are the criteria in Profitability Analysis (CO-PA) according to which you can analyze your operating results and perform differentiated sales and profit planning. The combination of the values for the characteristics in an operating concern is called a Profitability Segment. Examples: Division, Region, Product, Customer, etc.
- **Characteristic Values** are the concrete value of a characteristic. Examples: Characteristic Product has the Characterisitc Value "Speedstar", Characteristic Customer has the Characteristic Value "5xxxy".
- **Value fields** are the fields that contain the currency amounts and quantities that you want to analyze in CO-PA. They represent the structure of your costs and revenues. Value fields that are used frequently are predefined in the standard system. These include fields such as revenue, sales quantity, incoming freight, outgoing freight and others. You can select those predefined value fields that you wish to transfer into your own operating concern. Examples: Revenue, Costs

You can analyze a large number of **key figures** in your reports in Profitability Analysis. These key figures can be either value fields stored in the database or key figures calculated in a Key Figure Scheme.

For instance, you can calculate the key figure Net Income/product group as revenues/product group minus Sales deduction, Tax, etc.

A **key figure scheme** combines related key figures into a collection of formulas. These formulas can be based on value fields as well as the other calculated key figures in the scheme.

What does this all mean?

1. In CO-PA, you define the Operating Concern as the highest Organizational Level. An Operating Concern can have multiple Cost Control Areas assigned. In our IDES System only one Operating Concern (IDEA) is defined, which has all Cost Control Areas assigned.
2. Within the Operating Concern, you define Characteristics. Examples: Product, Customer, etc.
3. Through assignment of these Characteristics to Master data definitions, you determine which Characteristic Values belong to which Characteristic. Example: You define the product Speedstar. Speedstar is then assigned to the Characteristic Product in CO-PA as a Characteristic Value. Another example: Customer = 5xxxy.
4. Now you define Value fields (e.g., Revenue or Costs).
5. You can define Key Figures. Thereby, a Key Figure can be a Value Field or a more complex combination of multiple Value Fields. You use Key Figure Schemes to perform, e.g., complex calculations. Example: *Revenue - Costs = Profit Margin*
6. Now you post an accounting relevant process in SAP ERP. For instance, you sell 100 Speedstars to Customer 5xxxy and the customer pays them.

7. The system posts all revenues and costs, etc., in this process to the profitability segment, which is specified through the valid combinations of the Characteristic Values defined in the Operating Concern.
- Example of a very small profitability segment:
 - o **Characteristics** Product Customer
 - o **Characteristic Values** Speedstar 5xxyy
 - o **Value Fields** Quantity Revenue Costs
 - o **Posted Values →** 100 230.000 € 180.000 €
 - o **Key Figure** Profit Margin (PM) = Revenue - Costs
 - o **Calculated Value →** PM = 230.000 € - 180.000 = 50.000
8. Now you can analyze in CO-PA "how much of a certain product a certain customer purchased", "how many profits this customer generated", "how many costs he generated", etc.

7 Product Cost Controlling

This section teaches you how Product Cost Controlling is applied in SAP CO and how it is linked with SAP MM.

7.1 Theory: Product Cost Controlling (SAP CO-PC)



Theory

Product cost controlling carries out cost planning for the production of products or services as well as updating, monitoring and analyzing actual costs of products. Furthermore, cost object controlling is part of this component.

7.1.1 Overview of Product Cost Accounting

Product cost controlling consists of the following components:

Product cost planning is used to estimate costs for the production of goods or services.

When processing product cost planning, the costs for producing goods and services are calculated. If a quantity structure (BOM and routing) is available for a good in production planning, the system can automatically create a cost estimate by using these data. If there is no quantity structure available in the SAP system, the costing item can be either entered manually by using the unit costing tool or they can be transferred automatically from an external system by using batch input.

Cost object controlling collects costs incurring for the production of a product or for the provision of a service by using cost objects such as production orders. These costs are allocated to cost objects such as production orders in cost object controlling. Depending on your requirements, different types of cost objects are available. These cost objects include sales orders, production orders and product cost collectors.

Simultaneous costing and period-end closing are the main focus of cost object controlling. The actual production costs are cumulated together with the raw material consumption during work processing. Thereby, you have the possibility to compare plan and actual costs for each phase of the production process. In period-end closing, the value of the goods still in production (work in process) and the variances of cost estimate and actual costs are determined. These variances are allocated to other components such as Profitability Analysis and financial accounting.

Actual costing and material ledger issue the actual costs for each material at the end of the period. Materials and material movements are valued with a standard price during the period. In case of variance from this standard price, they are collected in the material ledger at the time of invoice receipt or order settlement. At the time of period-end closing, an actual price for the material in the closed period is calculated by using these variances.

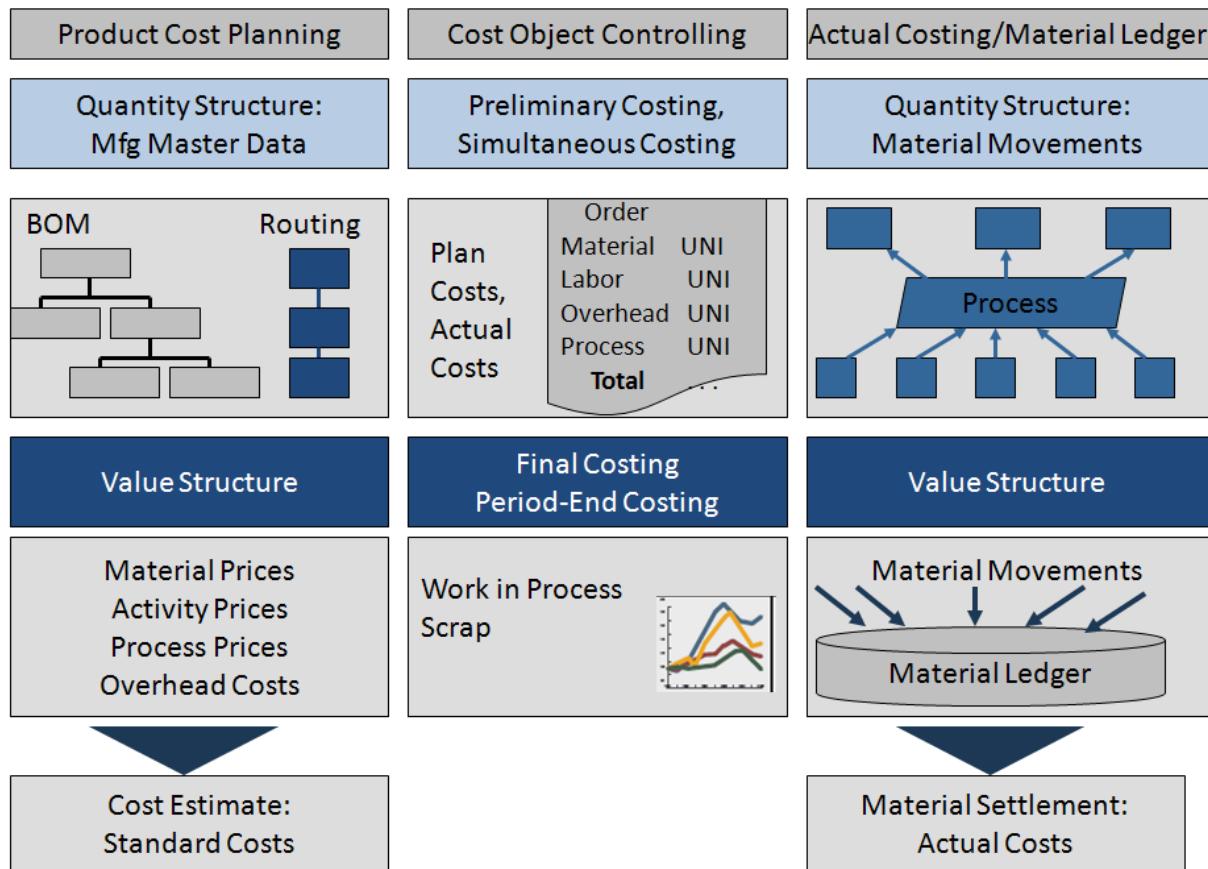


Figure 92: Overview of Product Cost Controlling

7.1.2 Product Cost Planning

When processing a cost estimate with quantity structure, the costing variant, the material, the plant and the lot size must be entered. The dates are proposed by the costing variant and specify the following:

- the validity period of the cost estimate (costing date from/to)
- the selection date for the BOM and routing (quantity structure)
- the price data for all material components and activities (valuation date)

Costing results can be saved and displayed as itemization, Cost Elements itemization or cost component splits. The itemization includes detailed information concerning the cost origin. For example, quantities and prices of used materials and internal activities can be displayed.

The **cost element itemization** groups the costing items to Cost Elements. The order in which Cost Elements are grouped corresponds with their appearance. The Cost Elements are determined by using account determination for materials, activity type master record or by using activity type planning for activities and using the process master record for processes.

The **cost component split** groups Cost Elements into cost components. When estimating a multi-level structure, the *cost component split* is rolled up so that the original identity of costs is retained for analysis.

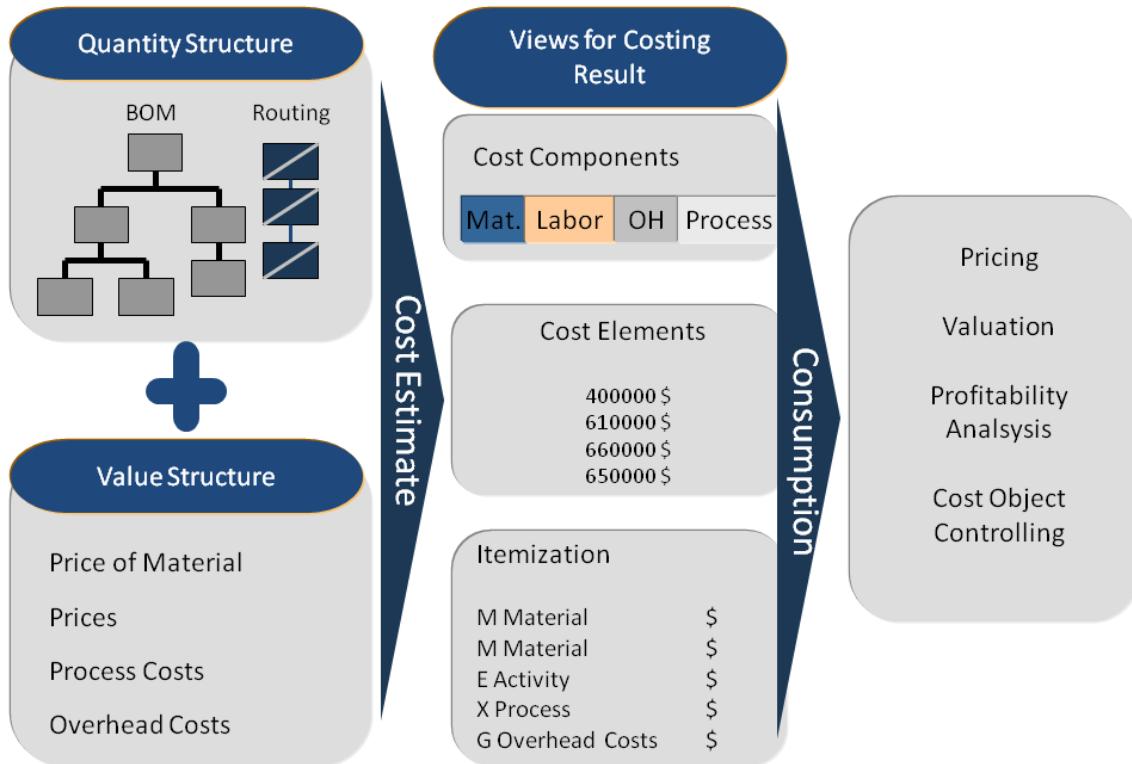


Figure 93: Overview of Product Cost Planning

7.1.2.1 Price Update

You carry out a cost estimate for a material in transaction CK11n. Once the cost estimate is calculated, you can transfer the costing results to the material master as prices by using transaction CK24. This transfer of the estimated price to the material master is called price update. Therefore, the standard cost estimate must be marked and released. This results in a price update and the reevaluation of the inventory. To mark and release a standard cost estimate, the following prerequisites must be met:

- The standard cost estimate must be free of errors (status KA, free of errors).
- Marking and releasing must be allowed. The company code and the period in which the standard cost estimate can be marked with a particular valuation variant are set in the operation authorization. The responsible employee should enter the authorization once in a period. When marking a standard cost estimate, the results are updated in the material master as future standard price.

When you **mark** the standard cost estimate in transaction CK24 (marking view), the system writes the results of the cost estimate into the costing view of the material master record and updates the field **future standard price**. You can use this price to valuate a material component in the cost estimate.

When you **release** the standard cost estimate in transaction CK24 (release view), then the system transfers the result of the standard cost estimate into the material master record of the material and updates the field **current standard price**.

The price stated in the field current standard price is active for Financial Accounting and is used for valuation of the material until the next time a standard cost estimate is released.

From the current period on (when the cost estimate was released), all transactions (e.g., production order for this material) involving this material (which is produced in-house) are valued in the Logistics module using the standard price (that is, the results of the standard cost estimate).

If, e.g., a material with standard price control is delivered to stock after the production process, inventories of this material are valued with the standard price as determined by the standard cost estimate. This provisional valuation can be corrected at a later date following the settlement of the actual costs that occurred in the period (see teaching unit 4).

A standard cost estimate can only be released **once** a period. It is possible to delete a standard cost estimate from a database (using a particular transaction). However, the standard cost estimate should always be checked for correctness before releasing it for a product. Therefore, the information system features special reports.

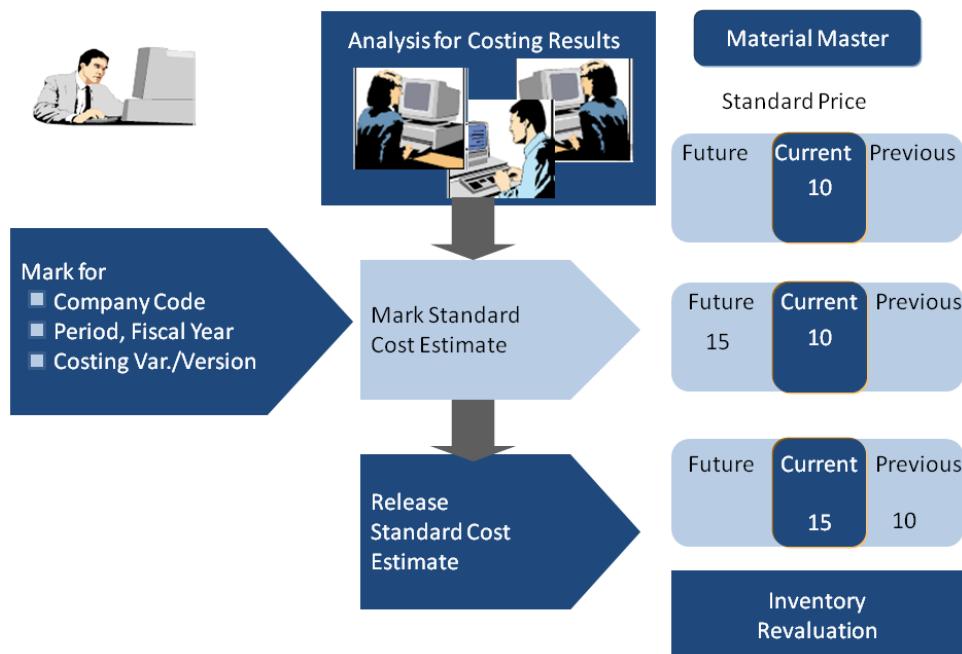


Figure 94: Price Update

7.1.2.2 Integration: Standard Price and Standard Cost Estimate

One main function for **material valuation** is **price control**. In the material master, you set the price control indicator, which can be S (standard price) or V (average moving price). This indicator is particularly important for material valuation. The price control field indicator in the material master defines which price is used to value the material.

When the price control indicator is set to S, the inventory is valued at standard price. In addition, goods movements are valued directly in the system using a price selected in accordance with the price control indicator.

If the standard prices are updated by a standard cost estimate, this price can be used in *cost object controlling*.

The system can use the itemization of standard cost estimates for determining the target costs for production orders. The difference between target costs and actual costs can be analyzed according to variance categories (e.g., quantity or price variances). The basis of the variance determination is the saved itemization.

In *Profitability Analysis*, standard cost estimates (or other material cost estimates) can be used to compare the revenues of the billed quantity with the cost component split of the product. The standard price is also a prerequisite for using the material ledger to determine an actual price.

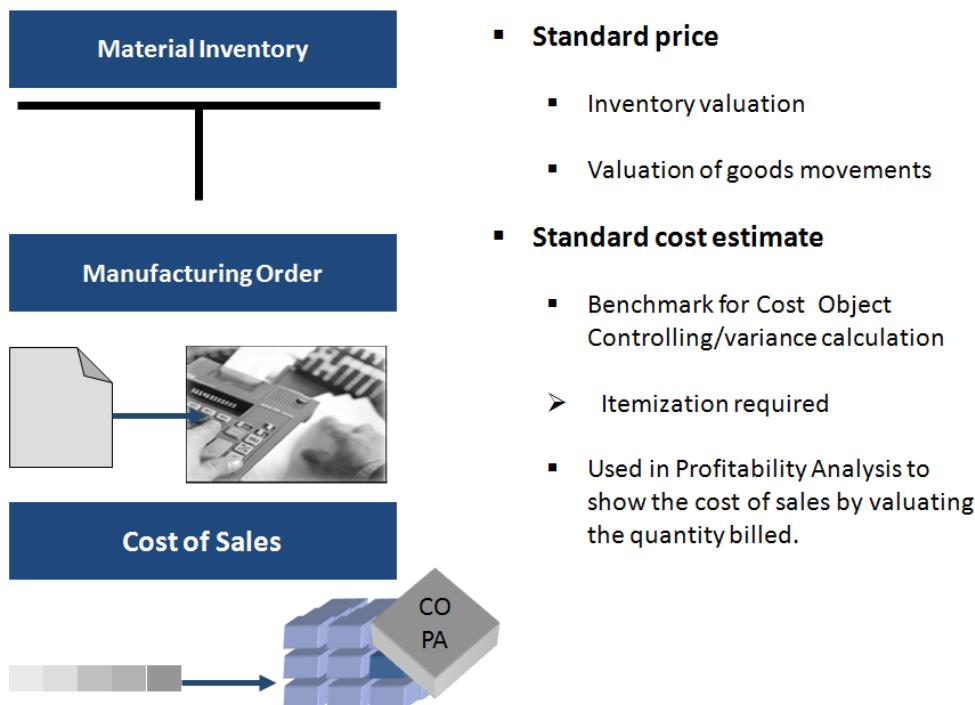


Figure 95: Integration: Standard Price and Standard Cost Estimate

7.2 Practice: Product Cost Accounting (SAP CO-PC)



The integration of Cost Center Accounting to production planning results from the assignment of work centers to cost centers. This is realized in the following, based on the PP case study.

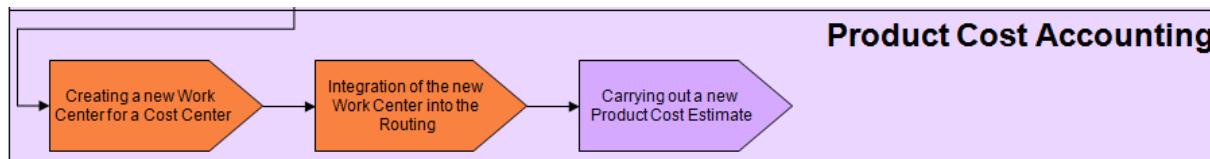


Figure 96: Process Overview: Product Cost Accounting

7.2.1 Creating a new Work Center for a Cost Center

Create a new work center to a cost center.

Work center:

The organizational unit work center (e.g., person, machine) determines where an operation is carried out and who carries out an operation. The work center features a particular capacity. The tasks performed at that work center are valuated with allocation rates that are set by cost centers and activity types.

Choose

Logistics → Production → Master Data → Work Centers → Work Center → Create (CR01)

- To create a work center, enter the following data:

<ul style="list-style-type: none"> - Plant - Work center - Work center cat. - Copy from Plant - Copy from work center - Press <i>Enter</i>. 	<ul style="list-style-type: none"> 1000 (<i>Hamburg</i>) PL-<i>xxyy</i> Person (0003) 1000 (<i>Hamburg</i>) 1420 (<i>manufacturing</i>).
---	---
- In the following window, choose to **copy all areas but costing**. Click the - button (copy) or press *Enter*.
- Skip a possible error message with *Enter*.
- Go to the **costing** tab to assign your own cost center to your work center. Enter the following data:

<ul style="list-style-type: none"> - Start date - Cost Center - Activity type Setup - In the Setup row, enter the formula key SAP001 (Prod. Setup time). 	<ul style="list-style-type: none"> <i>Current date</i> <i>CC-MF-<i>xxyy</i></i>. Select F4 activity type <i>MF<i>xxyy</i></i> should be displayed. Select it.
--	--

The screenshot shows the SAP interface for creating a work center. At the top, it says "Create Work Center: Cost Center Assignment". Below that, there are fields for "Plant" (1000) and "Work center" (PL-9999). To the right, it says "Werk Hamburg" and "Assembly IV". There are tabs for "Basic Data", "Default Values", "Capacities", "Scheduling", and "Costing". Under "Basic Data", there is a "Validity" section with "Start date" (11.09.2010) and "End Date" (31.12.9999). A "Link to cost center/activity types" section shows "Controlling Area" (1000) and "Cost Center" (CC-MF-9999). The "Activities Overview" table lists various activities: Setup, Machine, Labor, Standard value 1, Standard value 2, and Standard value 3. The "Activity Type" column for "Setup" contains "MF9999", and the "Formula description" column for "Setup" contains "Prod: Setup time". The formula SAP001 is also highlighted.

Figure 97: Create Work Center: SAP-System-Screenshot

- Save your entries.

7.2.2 Integration of the new Work Center into the Routing

Next, add your new work center that is valued with your activity type to the manufacturing routing of the Speedstarlett. Thus, the prices you have just calculated become effective. You will note that working at the new work center is more effective.

Call up the following transaction:

Logistics → Production → Master Data → Routings → Routing → Standard Routings → Change (CA02)

1. Enter **Material Speedstarlett-xxyy**.
2. Enter **Plant 1000 (Hamburg)**
3. Enter the **current date** as key **date**. Press **Enter**.
4. Double-click on **operation 0010**.
5. Overwrite in the fields of the operation the field **work center 1420** with your new **work center PL-xxyy**.
6. Additionally, delete the three activity types **setup (1422)**, **machine (1420)** and **personnel time (1421)**.
7. In the **setup time** row of the **activity type** field, enter **MFxxyy** and adjust the **Standard value** to **15** minutes.

8. Save your entries.

Operation		Suboperation	
Operation/Activity	0010	Work center	PL-9999 / 1000
Control key	PP01	Assembly IV	In-house production
Standard text key	P000001	<input type="checkbox"/> Long text exists	

Standard values				Unit of measure conversion			
Base Quantity	1	Header	PC	Unit	1	Operat.	UoM
Act./Operation UoM	PC	<=>		PC	1	PC	
Break							
Setup	15	Std value	MF9999	Acty type	<input checked="" type="checkbox"/>	Efficiency	001
Machine		MIN					
Labor		MIN					

Figure 98: Change Routing: SAP-System-Screenshot



If an error message appears that is saying that **activity type 1420 was not created for cost center 1000 CC-MF-xxxx**, the change of the activity type regarding the setup time was not recognized. Again, overwrite the default value with 15 and the activity type default value with **MFxxxx**.

activity type default value with **MFxxxx**. In addition, you might have to delete the activity type for machine time and personnel time again.

7.2.3 Carrying out a new Product Cost Estimate

In the PP case study, you already received a comprehensive introduction in product cost estimation. At that time, we brought a step of controlling forward because production would not have been possible due to the high standard of integration of the SAP ERP system. To complete this case study, carry out a new product cost estimate and check the improvement resulting from the integration of the new work center.

Accounting → Controlling → Product Cost Controlling → Product Cost Planning → Material Costing → Cost Estimate with Quantity Structure → Create (CK11N)

1. Choose your **material Speedstarlett-xxxx** in **plant 1000**.
2. Enter in the **costing data** tab the **costing variant PPC1 (Standard cost estimates (Mat))**, the **costing version 01** and **costing lot size 1**. Confirm with **Enter**.
3. In the field **Costing date from**, enter the **first of the next month** (!). Confirm with **Enter**.

4. The material cost is calculated. In upper part, the valued BOM is displayed and in the bottom part of the screen, the itemization is displayed. If this is not the case, choose **costs → itemization** from the menu or choose **F6**.
5. Save the cost estimate (or **CRTL+S**). On the next screen, select **itemization** and **protocol** and confirm with **Enter**. Leave the dialog with or **SHIFT-F3**.

Solution:

As a result, you get the following product cost estimate at the end of the controlling case study. The new work center can produce for fewer costs than work center 1420, which was previously responsible for the production of the Speedstarlett. As you can see, we were “successful” and the Speedstarlett can overall be produced cheaper.

What is the Total Value for the cost element MFT-xxxx in the Product Cost Estimate?

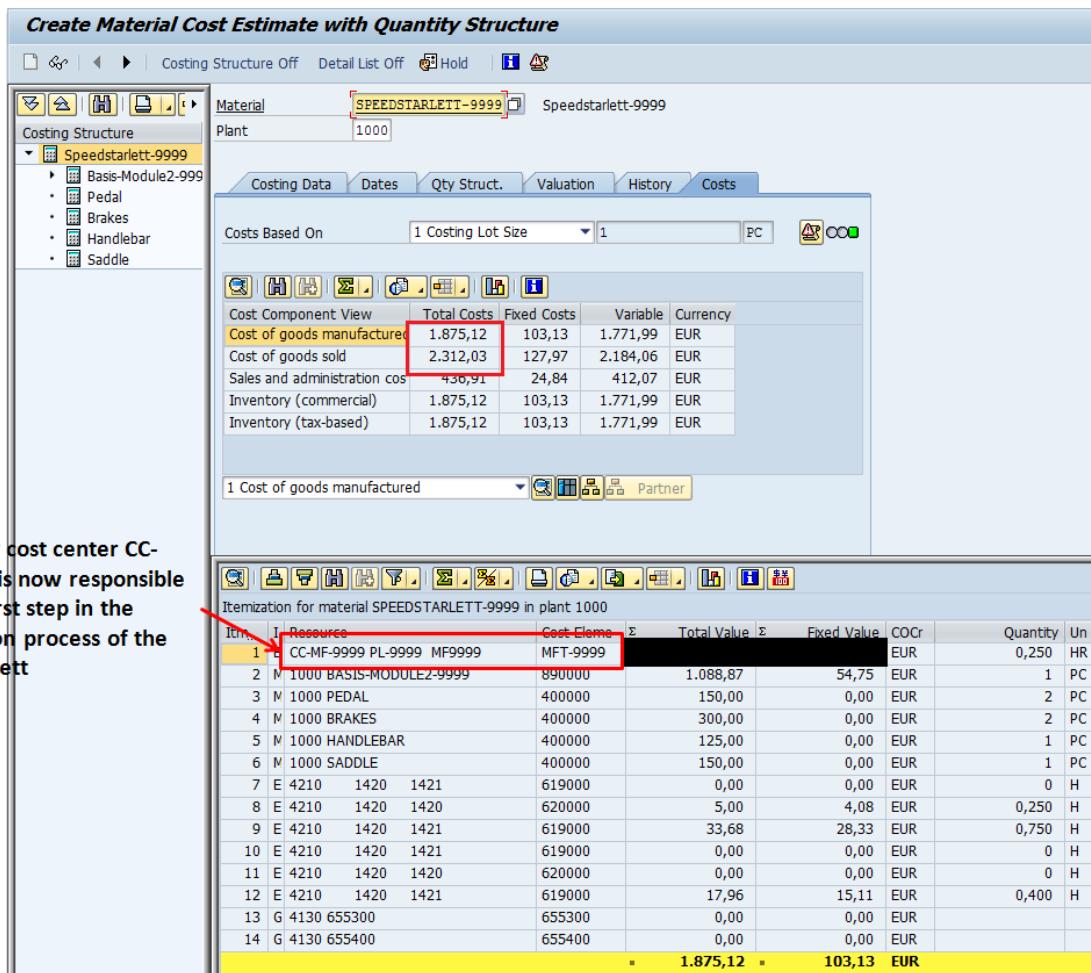


Figure 99: New Product Cost Estimate Speedstarlett: SAP-System-Screenshot

7.3 Elucidation



What have we learned so far?

You have learned what the components of Product Cost Controlling are and how cost estimates (Product Cost Planning) are carried out. Furthermore, the effects of the cost estimate are outlined.

7.3.1 Overview of Product Cost Accounting

Product cost controlling consists of the following components:

Product cost planning: Estimation of costs for the production of goods or services with or without a quantity structure (BOM and routing)

Cost object controlling

- collection of costs incurring for the production of a product or service on controlling objects
- cost allocation to other cost objects (sales orders, production orders and product cost collectors)
- Simultaneous costing and period-end closing are the main focus of cost object controlling.
- The actual production costs are cumulated together with the raw material consumption during work processing.
- You can compare plan and actual costs for each phase of the production process.
- In period-end closing, the value of the goods still in production (work in process) and the variances of cost estimate and actual costs are determined. These variances are allocated to other components such as Profitability Analysis and financial accounting.

Actual costing and material ledger

- It delivers the actual costs for each material at the end of the period.
- Materials and material movements are valued with a standard price (S) during the period.
- Variances from the standard price are collected in the material ledger **at the time of invoice receipt or order settlement**.
- **At the time of period-end closing**, an actual price for the material in the closed period is calculated by using these variances (moving average price).

7.3.2 Product Cost Planning

- Processing of cost estimate with quantity structure needs:
 - o costing variant
 - o material
 - o plant
 - o lot size
- Dates are proposed by the costing variant and specify the following:

- the validity period of the cost estimate (costing date from/to)
- the selection date for the BOM and routing (quantity structure)
- the price data for all material components and activities (valuation date)
- Costing results in
 - Itemization, which includes detailed information concerning the cost origin
 - Cost Elements itemization groups the costing items to Cost Elements. The order in which Cost Elements are grouped corresponds with their appearance in the production process (BOM, Routing). Cost Elements are determined by using account determination for materials, activity type master record or activity type planning for activities and the process master record for processes.
 - *Cost component splits* group Cost Elements into cost components. When estimating a multi-level structure, the *cost component split* is rolled up so that the original identity of costs is retained for analysis.

7.3.2.1 Price Update

- A Cost estimate, after being marked and released, updates the standard price originally entered in the material master.
- Marking and releasing a standard cost estimate requires:
 - Standard cost estimate must be free of errors.
 - Marking and releasing must be allowed for the particular company code, the period and the particular valuation variant.
- When marking a standard cost estimate, the results are updated in the material master as future standard price.
- Upon releasing of the standard cost estimate, the future prices in material master are updated and become the current standard prices.
- A standard cost estimate can only be released once a period.
- You can delete an existing standard cost estimate
- Standard cost estimate should always be checked for correctness before releasing. Therefore, the information system features special reports.
- Business transactions such as production orders, material movements, stock valuations or inventory that involve a material, which is costed using a cost estimate, are valued with the current standard price stated in the material master.

7.3.2.2 Integration: Standard Price and Standard Cost Estimate

- Material valuation aims at price control.
- Price control indicator S in the material master:
 - Inventory is valued at standard price.
 - Goods movements are valued directly in the system using a price selected in accordance with the price control indicator.
 - Price calculated by a standard cost estimate can be used in *cost object controlling*.
- Individual items (positions) of the standard cost estimates can be used for determining the target costs for production orders.

- Differences between target costs and actual costs can be analyzed according to variance categories (e.g., quantity or price variances). The basis of the variance determination is the saved itemization.
- In *Profitability Analysis*, product cost estimates can be used to compare the revenues of the billed quantity with the cost component split of the product.
- The standard price is also a prerequisite for using the material ledger to determine an actual price.

8 Data Sheet

Congratulations! You completed the **Management Accounting** case study.

The subsequent case studies are based on the results of this case study. In case your data differs from the description in the script, please contact your tutor prior to processing another case study.

Finally, please **submit the carefully completed data sheet** to your tutor (use support email address from the welcome mail) for the case study **Management Accounting**.

Please comply with the naming rules. Non-compliant data sheets will not be accepted; i.e., rename the document that you downloaded from this course's download area as follows:

09-management_accounting-xxyy-zzz-surname.doc

Thereby, you need to replace **xxyy** with your user number **without** the “**WIP**“ and without the hyphen (WIP-xx-yy) and replace **zzz** with the number of the client you are working on.

Example:

Your name is **Max Mustermann**, you are working on **client 901**, and your **user number is WIP-99-99**. Then, name the document as follows:

09-management_accounting-9999-901-Mustermann.doc

9 Reflexion



Reflexion

Test your knowledge. In this section you are confronted with some questions regarding the theoretical chapters of this teaching unit. Try to answer the questions on your own before taking a look at the standard solutions.

9.1 Questions

Comprehension Questions

1. List the two organizational units defined in controlling.

2. What is the difference between marking a standard cost estimate and releasing a standard cost estimate?

3. List the true controlling objects.

4. What are four typical uses of internal orders?

5. Describe the goal of Profit Center Accounting.

6. Describe the goal of Profitability Analysis.

7. What are the requirements for assigning multiple company codes to a controlling area?

8. What piece of master data do we use to capture costs in Management Accounting?

True/False

9. When allocating cost centers by using assessments, the original Cost Elements are used to track the movement from sender to receiver.

10. The FI module is the only source of expense and revenue postings in CO.

11. A secondary cost element is linked to a G/L account to ensure that expense postings pass to CO.

12. Profit Centers can be assigned Balance Sheet Items.

Multiple Choice Questions

13. What type of cost element do you use when passing costs from a sender to receivers utilizing an assessment?

(1 correct Answer)

- a. General Ledger Accounts
- b. Secondary Cost Elements
- c. Primary Cost Elements
- d. Overhead Elements

14. Which of the following is true in regards to Profit Center Accounting?

(2 correct Answers)

- a. deals primarily with the external market
- b. is concerning about profitability within functional areas of the company

- c. deals with statistical postings
- d. can have Profit and Loss statements as well as balance sheet statements

15. Which Organizational Structure is required if you want to use Profitability Analysis?

(1 correct Answer)

- a. Business Area
- b. Company Code
- c. Controlling Area
- d. Operating Concern

16. What is true about Primary Cost Elements and a Secondary Cost Element?

(4 correct Answers)

- a. A secondary cost element maintains its identity throughout the controlling process.
- b. A primary cost element maintains its identity throughout the controlling process.
- c. A secondary cost element maybe passed into a primary cost element.
- d. Primary Cost Elements must have an equivalent structure on the FI side.
- e. Deal primarily with Expenses and Revenues

17. What are categories of Internal Orders?

(3 correct Answers)

- a. Orders with Revenues
- b. Investment Orders
- c. Financial Orders
- d. Overhead Cost Orders

18. What are some examples of Periodic Allocation techniques?

(4 correct Answers)

- a. Assessments
- b. Direct Activity Allocation
- c. Periodic Reposting
- d. Indirect Activity Allocation
- e. Template Allocation

19. Which of the following would be considered Key Figures in Profitability Analysis?

(2 correct Answers)

- a. Customer
- b. Cost of Goods Sold
- c. Revenue
- d. Product Group

20. Which of the following answers are true regarding Product Cost Planning?

(2 correct Answers)

- a. creates cost estimates
- b. references prices from the material master
- c. helps identifying variances in product costs
- d. automatically updates our standard price when changes arise

9.2 Standard Solution

Comprehension Questions

1. List the two organizational units defined in controlling.
 - **Operating concern**
 - **Controlling area**

2. What is the difference between marking a standard cost estimate and releasing a standard cost estimate?

Marking enables the results of the standard cost estimate to be updated as the future standard price in the material master.

Releasing a standard cost estimate enables the future standard price to be updated as the current standard price and the current planned price in the material master.

3. List the true controlling objects.

- **Cost centers**
- **Real internal orders**
- **Real projects**
- **Networks**
- **Cost objects and profitability segments**

4. What are four typical uses of internal orders?

- **Overhead orders (used to monitor costs incurred for a particular purpose such as conducting trade fairs or tracking maintenance repair work)**
- **Investment orders (used to monitor costs incurring during the construction of assets such as building a storage facility)**
- **Accrual orders (used to offset postings of accrued costs in CO)**
- **Orders with revenue (used to replace the cost accounting parts of SD customer orders if SD is not being used)**

5. Describe the goal of Profit Center Accounting.

The goal of Profit Center Accounting is to measure the profitability of areas of responsibility within the organization.

6. Describe the goal of Profitability Analysis.

The goal of Profitability Analysis is to determine the profitability of market segments.

7. What are the requirements for assigning multiple company codes to a controlling area?
The company codes must have the same operating chart of accounts and the same fiscal year variant.

8. What piece of master data do we use to capture costs in Management Accounting?
Answer: cost element type

True/False

9. When allocating cost centers by using assessments, the original Cost Elements are used to track the movement from sender to receiver.

Wrong! Periodic repostings and distributions used the original Cost Elements while assessments use secondary Cost Elements.

10. The FI module is the only source of expense and revenue postings in CO.

False! Sales and Distribution, Materials Management and Human Capital Management can also transfer expense and revenue postings to CO.

11. A secondary cost element is linked to a G/L account to ensure that expense postings pass to CO.

False

12. Profit Centers can be assigned Balance Sheet Items.

True

Multiple Choice Questions

13. What type of cost element do you use when passing costs from a sender to receivers utilizing an assessment?

(1 correct Answer)

- a. General Ledger Accounts
- b. Secondary Cost Elements
- c. Primary Cost Elements
- d. Overhead Elements

Answers: b

14. Which of the following is true in regards to Profit Center Accounting?

(2 correct Answers)

- a. deals primarily with the external market
- b. is concerning about profitability within functional areas of the company
- c. deals with statistical postings
- d. can have Profit and Loss statements as well as balance sheet statements

Answers: c, d

15. Which Organizational Structure is required if you want to use Profitability Analysis?

(1 correct Answer)

- a. Business Area
- b. Company Code
- c. Controlling Area
- d. Operating Concern

Answers: d

16. What is true about Primary Cost Elements and a Secondary Cost Element?

(4 correct Answers)

- a. A secondary cost element maintains its identity throughout the controlling process.
- b. A primary cost element maintains its identity throughout the controlling process.
- c. A secondary cost element maybe passed into a primary cost element.
- d. Primary Cost Elements must have an equivalent structure on the FI side.
- e. Deal primarily with Expenses and Revenues

Answers: a, b, c, d

17. What are categories of Internal Orders?

(3 correct Answers)

- a. Orders with Revenues
- b. Investment Orders
- c. Financial Orders
- d. Overhead Cost Orders

Answers: a, b, d

18. What are some examples of Periodic Allocation techniques?

(4 correct Answers)

- a. Assessments
- b. Direct Activity Allocation
- c. Periodic Reposting
- d. Indirect Activity Allocation
- e. Template Allocation

Answers: a, c, d, e

19. Which of the following would be considered Key Figures in Profitability Analysis?

(2 correct Answers)

- a. Customer
- b. Cost of Goods Sold
- c. Revenue
- d. Product Group

Answers: b, c

20. Which of the following answers are true regarding Product Cost Planning?

(2 correct Answers)

- a. creates cost estimates
- b. references prices from the material master
- c. helps identify variances in product costs
- d. automatically updates our standard price when changes arise

Answers: a, d