Human Capital Management (Personalwesen)
Trends and Concepts of Business Application Architecture

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Enterprise Platform and Integration Concepts
Hasso-Plattner-Institut
Course Overview
Trends and Concepts of Business Application Architecture

- Digitalization of Business Processes
- Enterprise Resource Planning
  - Sales and Distribution
  - Finance, Accounting, and Controlling
  - Human Resources
  - Material Management and Production Planning
- Columnar In-Memory Database Systems for Business Applications
- Customer Relationship Management
- Enterprise Cloud Platforms for Integration and Extensions
- Block Week: Architecture Deep Dives

Which experiences do you have with HR?
Recruit to Retire

Understand, manage and optimize all aspects of your workforce (employees and external workers) in line with business objectives and with clear financial impact.
The Intelligent Enterprise

General Procurement
SAP Ariba

Customer Relationship Management
SAP C/4HANA (CRM)

Travel & Expenses
SAP Concur

Human Resources
SAP SuccessFactors (SFSF)

Enterprise Resource Planning
SAP S/4HANA (ERP)

Workforce Management
SAP Fieldglass
Recruit to Retire E2E Process
Agenda

- HCM Organizational Structure
- HCM Master Data
- HCM Processes
  - Organizational Management
  - Recruitment
  - Personnel Administration
  - Personnel Development
  - Talent Management
  - Performance Management
  - Time Management
  - Payroll
  - Offboarding
  - Employee and Manager Self Services (ESS/MSS)

- SAP SuccessFactors and SAP S/4HANA
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HCM Organizational Structure

- Represents the structural and personnel organization of a company
- Consists of organizational units
- Illustrates the organizational structures and hierarchies
- Illustrates an employees responsibilities
- Is a precondition of various personnel processes’ implementation

- Consists of three parts:
  - Enterprise Structure
  - Personnel Structure
  - Organizational Plan
HCM Enterprise Structure

- **Enterprise Structure**
  - Represents formal and financial structures in a company
  - Each employee needs to be assigned to an enterprise structure.
  - Basically, consists of company code, personnel area, and personnel subarea

- **Client**
  - An independent environment in the system

- **Company Code**
  - Smallest org unit for which you can maintain a legal set of books

- **Personnel Area**
  - Represents a company area differentiated between personnel administrative, time management, and expensive organizational aspects

- **Personnel Subarea**
  - Represents part of a personnel area
Global Bike Enterprise Structure for HCM

Global Bike Group

Global Bike US
- GBI Dallas
  - Executives
  - Finance
  - HR
  - IT
  - MM
  - Purchasing
  - Production
- GBI Miami
  - Sales
  - Purchasing
  - MM
- GBI San Diego
  - Sales
  - MM

Global Bike Germany
- GBI Hamburg
  - Sales
  - Purchasing
  - MM
- GBI Heidelberg
  - Executives
  - Finance
  - HR
  - MM
  - Purchasing
  - Production

Client
Company Code
Personnel Area
Personnel Subarea
Personnel Structure

- Describes an employee’s position within the company
- Is defined by employee group and employee subgroup

- Employee Group
  - Organizational unit for which personnel related regulations can be specified
  - Examples:
    - Active employees
    - External
    - Retirees

- Employee Subgroup
  - Organizational unit within the employee group, for which personnel related regulations are specified
  - Examples:
    - Industrial employees
    - Commercial clerks
    - Laboratory assistants
HCM Personnel Structure

Employee Group

Active

External

Retiree

Employee Subgroup

Employee

Executive

Trainee
HCM Organizational Plan

- **Organizational Plan**
  - Describes in which function an employee is acting

- **Organizational Unit**
  - Can be grouped according to functional and regional aspects.

- **Position (Headcount)**
  - Are assigned to organizational units and filled by employees
  - Example: Position accounting clerk in the Accounting Department

- **Person**
  - Are employees and fill positions

- **Cost Center**
  - originate from Controlling and can be linked with positions or organizational units

- **Job**
  - General description of tasks which an employee should perform
  - Are assigned to positions
  - Example: Position Head of Department
Global Bike Enterprise Structure in SAP ERP HCM (US)

- **Company Code**: US00
- **Personnel Area**: Dallas DL00
- **Personnel Subarea**: Miami MI00

**Employee Group 1 (Active)**
- 10 Intern
- 11 Hourly Wage
- 12 Salary scale
- 13 Executive

**Employee Group 2 (Retiree)**
- 20 Pensioner
- 21 Honorary

**Employee Group 9 (External)**
- 90 Junior Consultant
- 91 Senior Consultant

**Employee Subgroup**
- 90 Junior Consultant
- 91 Senior Consultant
- 20 Pensioner
- 21 Honorary
- 10 Intern
- 11 Hourly Wage
- 12 Salary scale
- 13 Executive

- **Executives**: EX00
- **Finance**: FI00
- **Human Resources**: HR00
- **IT**: IT00
- **Materials Management**: MM00
- **Production**: PP00
- **Purchasing**: PU00
- **Sales**: SD00
- **Human Resources**: HR00
- **IT**: IT00
- **Materials Management**: MM00
- **Production**: PP00
- **Purchasing**: PU00
- **Sales**: SD00

- **Honorary**: 20
- **Pensioner**: 21
- **Junior Consultant**: 90
- **Senior Consultant**: 91
- **Intern**: 10
- **Hourly Wage**: 11
- **Salary scale**: 12
- **Executive**: 13
- **Junior Consultant**: 90
- **Senior Consultant**: 91
- **Intern**: 10
- **Hourly Wage**: 11
- **Salary scale**: 12
- **Executive**: 13

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**Personnel Number**

- Is used in SAP as a central identifier for an employee
- Can comprise up to eight alphanumeric characters
- Can be assigned either by the system or manually
- All employee data available in the system is identified on the basis of the personnel number

HCM Master Data

<table>
<thead>
<tr>
<th>Personnel no.</th>
<th>Expenses results</th>
<th>Travel expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>64751511</td>
<td>Expenses May 2010</td>
<td>Travel expenses April 2010</td>
</tr>
<tr>
<td></td>
<td>Expenses June 2010</td>
<td></td>
</tr>
</tbody>
</table>
### Reference Personnel Number and Person ID

- Helps to map different contractual relationships
- Creates an existing employee again in the system with a new personnel number
- The old personnel number serves as a reference personnel number
- Certain data can be copied and assigned to the new number
- In the case of concurrent employment, the employee is identified through a person ID

**HCM Master Data**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Person ID 155486211</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Personnel Number and Person ID</td>
<td>Person ID 155486211</td>
</tr>
<tr>
<td><strong>Personnel number</strong></td>
<td><strong>Personnel number</strong></td>
</tr>
<tr>
<td>64751511</td>
<td>47116550</td>
</tr>
<tr>
<td><strong>Employee in personnel area</strong></td>
<td><strong>Project Manager in personnel area</strong></td>
</tr>
<tr>
<td>DL00 Dallas</td>
<td>MI00 Miami</td>
</tr>
</tbody>
</table>
**Infotypes**
- HR master data is structured in infotypes
- They are collections of data fields that are logically linked
- They process employee data in an effective structure in accordance with business requirements
- Each infotype has an explicit four-digit ID, e.g., infotype Addresses 0006
- An infotype can have sub types, which represent a sub variant of the infotype

**HCM Master Data**

- Infotype 2001 Absence
  - Sub type 0100 Vacation
  - Sub type 0220 Health resort
  - Sub type 0601 Parental leave
Time Constraints of Infotypes

**Time constraint 1**
Exact always a valid period
e.g., permanent residence

**Time constraint 2**
Max. one valid period, no overlaps
e.g., husband

**Time constraint 3**
At any point in time, any number of valid periods
e.g., secondary residence
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Roles in Human Resources

- Recruiter
- Personnel Development Manager / HR Business Partner
- Head of Department
- Head of HR Department
- Recruiter
- Personnel Development Manager
- HR Business Partner
- Payroll
- Personnel Controlling
- Talent Management
- Performance Management
- Travel Management
- Billing Clerk
- Travel Administrator
- Time Administrator
- Personnel Development
- Time Management
- Recruitment
HCM Processes - Organizational Management

- Model the organizational structure of your enterprise
- Create, change and delimit organizational units
- Create, change and delimit jobs and positions
- Analyze an organizational unit to define workforce requirements and personnel cost planning
- Create further organizational units for planning scenarios or simulations

* FTE = Full Time Equivalent

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HCM Processes - Recruitment

- Recruitment, choice and selecting of applicants
- External recruitment
- Internal recruitment
- Developing a database for applicants
- Administration of vacant positions
- Applicant data is stored separately
- Use of infotypes
- Unique applicant number in the system

Recruitment - Organizational Assignment

Applicants are assigned to the elements of the applicant structure:

**Applicant Group**
Structures applicants according to the type of their employment relationship

**Applicant Range**
Classifies applicants according to hierarchical or functional criteria

- Actives
- Working students
- Employees
- Executives
- Specialist
Global selection process (does a candidate fit the company) vs. selection process for each vacancy

The overall status indicates the status of the applicant within the selection process:

- In processing
- To hire
- Deferred
- Rejected
- Contract offered
- Offer rejected
- Invite
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HCM Processes – Personnel Administration

- Creation and management of personnel master data
- Plausibility checks
  - Timely error detection
  - Prevent transmission of incorrect data
- Automatic history
  - Is created when master data is changed
  - Can be used for reports and data review
- Personnel administration sets the basis for follow-up processes in human resources and reporting

IC = Individual Contributor
MMT = Manager Managing Team
MMM = Manager Managing Managers
*E = Executive (Leitender Angestellter)
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HCM Processes - Personnel Development

- Advance qualifications of employees
- Comparison: requirements of positions with qualifications of employees
  - Profile matchup
  - Identify further training need
- Introduce development actions
  - → Talent Management
- Book training course
  - → Training and Event Management
- Feedback and arrange appraisals
  - → Performance Management
Qualifications can be connected to persons and positions (then requirements)
Need to be attached with attributes (e.g., grades)
Can have a half-life period or a validity period
Personnel Development - Qualifications Catalog

- Qualifications are defined in the qualifications catalog
- It can be maintained in customizing
- The structure may consist of qualification groups, classifying similar qualifications
With the help of the profile matchup, persons, positions and jobs can be compared to each other. The difference between the characteristic of a requirement and the characteristic of a qualification is determined. 3 results are possible:

- Both characteristics are identical
- The requirements are higher than the qualification (= underqualification)
- The requirements are lower than the qualification (= overqualification)

Events for specific qualifications can be assigned directly to characteristics. After success, the profile of the person changes.
## HCM Processes – Talent Management

**Talent management** deals with career planning and the further training of employees and is integrated into personnel development.

- Arrange Career Planning
- Accomplish Succession Planning
- Generate general Development Plans
- Generate individual Development Plans

```
<table>
<thead>
<tr>
<th>Career Development</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>My Strengths &amp; Development Goals</td>
<td>My Strengths and Feedback</td>
<td>Development / Career Goals</td>
</tr>
<tr>
<td></td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Development Attachments &amp; History</td>
<td>Development Plan Attachments</td>
<td>Career &amp; Development Planning History</td>
</tr>
<tr>
<td></td>
<td>No data</td>
<td>No data</td>
</tr>
</tbody>
</table>
```
Talent Management – Career Planning

- Identify career goals
- Plan career
- Define and develop special stations of a career
  - Job
  - Position
  - Course of instruction
- Career planning: comparing qualifications with requirements of one station of a career, e.g., job, position → Personnel decisions, courses of instruction, etc.
- Derivate individual plans
Talent Management - Succession Planning

- Assure continuity in personnel allocation for key positions
- Proactive search for candidates to reallocate key positions
- Well-directed preparation on adoption of following job
HCM Processes - Performance Management

- Define objective setting between enterprise and employees
- Evaluate benefit of employees → Feedback
  → Have goals been achieved?
- Supervise operative goals of employees
- Adjust bonuses
- Goal: higher motivation and better benefits

The assessment form consists of different elements
- Forms e.g., 360° feedback, additional appraiser, documented 1:1s, (skip-level meetings)
- Criteria groups
- Criteria
- Qualifications
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HCM Processes – Time Management

- Book days off
  - Supervisor and HR approval required
  - Vacation (20 days required by law, additional days optional, expiry of vacation days, unpaid vacation, special vacation)
  - Maternity leave
  - Lead times and agreements may be necessary
- Illness (for information only, proof from three days)
- Production planning, maintaining team calendars and out-of-office

- Record attendance
  - Temporary workers (hourly wage earners) vs. trust-based working hours
  - Insurance coverage and obligation to provide proof
  - Home office regulations

- Part-time individualizes the process further
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HCM Processes - Payroll

- Interaction of personnel data and accounting
- Payroll accounting is very individual (e.g. part-time, children, illness), region, changing laws, employer and employee shares)
- **Basic pay (Basisbezüge)**
  - Monthly salary, one-off and annual payments
  - Non-cash benefits (company car, lunch, share programs,...)
- **Statutory deductions (Gesetzliche Abzüge)**
  - Income tax, solidarity surcharge and social security
  - Deduction of monetary benefits (only necessary for taxation)
  - Observe individual allowances and maximum limits
- **Payments (Zahlungen)**
  - Private account and other accounts such as building societies
  - Operating accounts for capital-forming shares
  - Subsequent settlements from previous months
  - Basis for the annual transmission to the tax office

---

**Basisbezüge:**
- 0003 Monatsgehalt
- 406 LSt pausch. AN
- 409 Sozialp. AN
- 425 PKW-Wert gw.Vorteil
- 426 PKW-KM gw.Vorteil
- 575 Vermögensb.-Anteil
- 6003 Basis Vors. Essen Vorm.  
  9998 SM EM Bonus vorher. Jahr
- 9999 AG OwnSAP Zuschuss
- 710E Gesamtbetr. (EBeschV)

**Gesetzliche Abzüge:**
- LSTE Lohnsteuer, EZ
- LSTL Lohnsteuer, lfd.
- SLZE Solidaritätszuschlag, EZ
- SLZM Solidaritätszuschlag, mz
- SLZL Solidaritätszuschlag, lfd.
- RANL Rentenversicherung, lfd.
- AANL Arbeitslosenvers., lfd.

**Netto:**
- J55E Gesetzl. Netto (EBeschV)

**Sonstige Be- und Abzüge:**
- 6003 Basis Vors. Essen Vorm.
- 425 PKW-Wert gw.Vorteil
- 426 PKW-KM gw.Vorteil
- 0721 Nettoabzug Firmenwagen
- 993E AN OwnSAP Kauf
- 998T AG OwnSAP Abzug
- 998B VB Bausparen
- KVBZ Abg. Beitrag f/w KV
- PVFB Abg. Beitrag f/w PV
- KVA AG-Zuschuss KV
- PVZAG AG-Zuschuss PV
- 9952 Nachverrechnung aus Vorm.

**Zahlungen:**
- VB Überweisung Aachener Bausparkasse AG
- Überweisung ING DiBa AG
- MAV/AZK:
  - kumulierte Werte MAV
  - AZK Entnahme Vormo.

*Kennzeichen: (E)Einmalzahlung, (L)Lohnsteuerpflichtig, (S)sozialversicherungspflichtig, (G)gesamtbetr., Beschreibung nach §108 Absatz 3 Satz 1 GewO
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- **Offboarding**
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Both employer and employee can terminate the contractual relationship

- Reasons: voluntary, retirement, restructuring, operational,...
- But even fixed-term employment or temporary work ends at some point

Offboarding of employee

- Creation of job references
- "Routing slips" for returns and batch jobs to block access
- Change of employee group to "Former"
- The data will only be deleted after a retention period
- Replacement: Create a position/headcount
- Despite deadlines, an immediate lockout may be necessary
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Employee Self-Service (ESS)

- Web-based user interface for employees
- Enables the time and location independent maintenance of personal data
- Provides access to several administrative functions, which usually are taking care of by other departments

Employees can do following activities by ESS:
- Submitting travel expenses
- Browsing the employee directory
- Displaying the calendar
- Updating of personal data
- Applying for employer benefits
- Documenting of working hours
- Updating of bank data
- Register for training courses
Manager Self-Service (MSS)

- Central web-based access point for managers
- MSS uses the backend systems of the human resources and finance departments and supports the management with enterprise-wide relevant information
- The self-service tools automate paper-based processes, e.g., inquiries regarding master data changes or performance assessments

Managers can do following activities by MSS:
- Gaining information
- Hiring employees
- Carrying out compensation planning
- Controlling costs
- Manage the budget and human resource planning
- Change personal data

The "four-eyes principle" often applies (further approval from, e.g., superiors, HR, board of directors)
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SAP SuccessFactors and SAP S/4HANA

- SAP SuccessFactors is the next HCM generation:
  - Acquired 2011
  - Suite in the public cloud

- Can be integrated with SAP S/4HANA

- SAP S/4HANA customers can continue to use SAP ERP HCM in the on-premise version
SAP SuccessFactors and SAP S/4HANA

- SAP Success Factors forms the new HR management in S/4HANA and is intended to replace the ERP HCM as a cloud solution in the future. The functions are structured in combinable modules:

**HR Core Functions**
- Organizational management
- People and transactions
- Shared services for human resources
- Management of external employees
- Global Employer Benefits

**Learning and Development**
- Learning
- Personnel development and successor planning

**Performance and Compensation**
- Payroll
- Performance and target agreements
- Compensation

**Recruiting and Onboarding**
- Recruiting
- Onboarding
- Electronic signature

**Time and Attendance Management**
- Timesheets
- Working time measurement
- Workforce planning

**Personnel planning and analysis**
- Personnel analyses
- Workforce planning
- Digital decision-maker portal
Advantages of SAP SuccessFactors

- The cloud solution offers high security standards
  - Similar to military or banks
- Data can be called up at any time using a browser
- Upgrades every 3 months
- Simple administration
  - Training videos & numerous wizards
- Improved User Experience

- Customer-friendly because pay-per-use
- Scalable according to user, system performance and customer-specific processes
- Integration into all existing SAP applications
- Always up-to-date compliance requirements
- Proven process design instead of complicated processes
- Rapid implementation
Disadvantages of SAP SuccessFactors

- ... of cloud-based services in the SAP environment
  - External management of personnel data
  - Scepticism of HR departments due to possible data theft (despite high security measures)
  - In particular, personal data (of talent management) is highly sensitive for companies (but not critical)

- ... of SaaS applications in the SAP environment
  - Often less customization (in-house development)
  - Little or no customizing options
  - Existing customer-owned on-premise solutions can no longer be used in SaaS applications
  - (Lower data transfer speed than on-premise solutions)
Summary

- The organizational structure in human resources consists of the organizational structure, personnel structure and enterprise structure.

- Employee master data consists of a unique personnel number and infotypes (collections of data fields) that describe the individual employee.

- In addition to the administration of employee data, the processes in human resources include the hiring of new employees, development of the same, time management, payroll and leaving the company.

- Self services support employees and managers with regular inquiries and thus automate parts of human resources.

- SAP SuccessFactors is a separate cloud solution for human resources, which is integrated with the ERP.