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Teaching Hands-On Enterprise Systems

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1. Overview of ERP Concepts
2. SAP UA Program Overview
3. Examples of using ERP in classes
4. Questions
5. Exercises
6. Wrap up and more questions
What Is Enterprise Resource Planning?

Phase coined by Gartner Group in early 1990s

The integration of all computing within an organization such that:

- All major business processes are encompassed and standardized and
- All data is usable by all functional areas of the business

Enterprise Resource Planning = ERP

- Integrate many business functions into one seamless application
- Usually are applications systems that run on top of a RDBMS
- Replace 100s of legacy systems in organizations who use an ERP
- Estimate that 80-85% of all Business transactions in the world touch an ERP system
What Is Enterprise Resource Planning?

One Integrated Information System

Executive IS

Strategic Information

Decision Support

Managerial Information

Sales & Marketing

Manufacturing

HR

Procurement

Accounting & Finance

Transaction Information
Characteristics of ERPs

- Link all business processes automatically
- Reduce interprocessing time (transactions occur one time at the source)
- Maintain complete audit trail of all transactions
- Utilize one common database
- Perform automatic internal conversions (e.g., foreign currency, taxes, legal “rules” for payroll)
- Improve customer service by putting data at the fingertips of any employee regardless of language or location
- Involve users in the entire functional cycle
- Unify backup, recovery procedures and other system administration tasks
- Secure the system from disaster and unauthorized use
Information Systems Evolution

ERP Evolution

OLTP Industry Standard - Terminology, EDI, Benchmarks

Manufacturing

MRP
- Inventory
- Capital reduction

1970s

Green bar reports
- Early tools

Track the Business

MRP II
- Process efficiency

1980s

Data Warehouses
- Data Marts
- DSS
- Spreadsheets
- Reports

Understand the Business

MRP
- Process efficiency

1990s

MDD
OLAP
Web-based reporting
Data Mining

Improve the Business

ERP
- Resource optimization
- Solution Integration

2000+

Next Generation
- eBusiness
- CRM, SCM, BI

ERP Data Warehousing

Business Process Integration
BackEnd/FrontEnd

Data Warehousing Evolution

ERP Data Warehousing
Role of SAP in ERP

- SAP is dominate player in ERP software (roughly 60% of ERP market and 35% of total market share for all enterprise applications)

- Oracle is nearest competitor with roughly 30% of ERP market and 17% of total enterprise applications market (includes JDE, Peoplesoft and other acquisitions)

- SAP founded in 1972 by ex-IBM employees

- Headquarters in Waldorf, Germany
SAP's Mission Statement

**SAP will...**

... define and establish undisputed leadership in the emerging market for business process platform applications,

... accelerate business innovation powered by IT for firms and industries worldwide,

... and thus contribute to economic development on a grand scale

**SAP is committed to...**

... making every customer a best-run business
SAP NetWeaver Integration

SAP NetWeaver Composition

SAP Business Suite Today

SAP CRM 2007
Successful ramp-up
648 shipments, 16 live customers

11,500 customers on SAP ERP
7,200 productive
Adding 500+ per month

Three successfully shipped
Enhancement Packages (EP)

Enterprise SOA
2,000+ enterprise services available

Momentum in SAP NetWeaver
42,800+ productive customers systems
(+1,000 per month)
Global Product Offering

Functionality / Industry Support

- ERP
  - Full functionality
- SAP All-in-One
  - Full functionality pre-configured, single database
- SAP Business One
  - Necessary functionality up to 250 users

Business Size
Welcome to the SAP University Alliances Community Network!

- **Mission:**
  - Advance SAP’s influence and value with strategic institutes of higher education, on a global scale

- **Objectives:**
  - Establish and maintain sustainable value-enabling, collaborative engagement models with institutes of higher education to support CS/IT and business academic initiatives
  - Enhance SAP’s relationship with key customer(s) and partner(s) communities through the university alliance community of influence
  - Demonstrate our commitment to expanding the ecosystem via a continuously growing supply of technologically advanced, SAP knowledgeable graduates – 1,000,000 by 2012
  - Deliver a “Thought Leadership” platform for business, technology and strategic topics
  - Secure future market and revenue opportunities for SAP

https://www.sdn.sap.com/irj/scn/uac
University Alliances Program Overview

- Makes a key contribution to SAP skills workforce development to directly grow the SAP ecosystem and support society’s educational goals

- SAP provides 900 UA member institutions and 180,000 students with:
  - software licensing for teaching and other academic purposes
  - a technologically advanced “peer-hosting” software and support platform model – from non-profit University Competence Centers and Academic Competence Centers, for a nominal fee
  - curriculum materials and aids,
  - faculty/academic workshops,
  - academic collaboration and exchange events, and
  - full University Alliances Community portal access including exclusive members-only content.

- Promotes critical shared values of community, quality, sustainability, speed, and continuous improvement
Welcome Center
Announcing the SAP University Alliances Community

Welcome to the University Alliances Community (UAC)! This global community is designed to connect faculty, students, SAP customers and partners, and SAP internal experts.

Members will find a rich set of education focused content that will help faculty and community members integrate SAP software into their courses - giving students real-life experience that offers tremendous advantage in the marketplace with careers, certification, and new opportunities!

Non-member faculty are encouraged to learn more about the SAP University Alliances Program to gain access to important business and IT curricula and peer-to-peer contact with many of the most important universities, thought leaders, lecturers, and experts in the world. To learn more please join our next introductory webinar on 3 March 2009!

Recent Coverage
UAC in the News!
On Monday, February 23, SAP announced to the worldwide press the launch of the new University Alliances community! Check out the recent news coverage which highlights the value and thought leadership the community is offering to the academic world as well as SAP customers, partners and experts.

- SAP Launches Online Resource for Academic Community

Featured Blog
What’s in a Name?
NEW!
Come read what Bob LoBufo, the new SAP Vice President of Global University Alliances (UA) has to say about the Community on the UA Message Board.

Do you have a SAP University Alliances question? Are you a long-time UA member? Just getting started? What do you think of this "new" site? We would like to
The Collaboration Workspace: Where You Find the Curriculum

Introduction Forum

Sharing of Experience within the SAP University Alliances Programme Successful
by Klas Sandstrom
3 days ago

Welcome to Online Help Desk Forum
by Sudi Capelli
1 week ago

Welcome University Alliances Program Members!

Welcome to the University Alliances Community *members only* faculty page for the UA Library!

You will find this private collaboration workspace useful in integrating SAP into all aspects of your curriculum. The curriculum content we offer in this area is from a variety of sources; we are working continuously to keep it current and relevant.

The mission of this CWM is to enable member lecturers (professors) to come together with SAP to collaboratively work on curricula and share insights. The Collaboration Workspace serves as an active hub for exchanging ideas and promoting innovations.

Instructions:
- To download curricula please go to the respective “UA Library” area and scroll down.
- To post specific dialogue please go to the respective UA Library area (click on the “Discussion” tab).
- For general library and student-related questions, comments or feedback, please go to.

UA Library Reference Desk

27-Feb-2003
Research results on ERPnetworks: New video and working papers - by Pierre-Majorique Leger

22-Feb-2003
Re: Master Thesis about SAP PI - by Alper Celik

22-Feb-2003
Re: Master Thesis about SAP PI - by Paul

16-Feb-2003
Check out our curriculum content - by Douglas Peebles
Major UA Activities Include:

- Developing relationships with new schools
- Expanding the use of SAP products within existing schools
- Supporting the Global University Alliances Community (www.sdn.sap.com/irj/scn/uac)
- Providing networking and educational opportunities for member schools (Workshops, Congress, etc.)
- Funding specific curriculum development projects with a global focus (BI/BW, AIS, SC, Solman, SAP Retail, etc.)
- Offering students scholarships, competitions, certifications, and job board (soon to come)
- Immediate plans include more active promotion of the program among non-member university and business communities
What’s In It For Me (WIFM)

- Access to world class enterprise applications to use in college courses and programs with no systems administration overhead
- Knowledgeable technical and curriculum support
- Ability to integrate curriculum silos through integrated business processes
- Access to free faculty training and networking opportunities
- Offer students competitive advantage in the job market
- Opportunities to build strong corporate relationships
What percentage of a curriculum should be "hands-on"?

![Bar Chart]

- **0-20%**: 5 respondents
- **21-40%**: 25 respondents
- **41-60%**: 15 respondents
- **61-80%**: 5 respondents
- **81-100%**: 5 respondents
How do you use SAP in your classes?

- More often during actual class time: 43.5%
- More often as assigned homework: 29.0%
- About an equal amount of each: 27.4%
What benefits keep you participating in the UA program?

Classification of comments:

<table>
<thead>
<tr>
<th>Current Benefits</th>
<th>Frequency</th>
<th>% of Total Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive advantage/job opportunities for students</td>
<td>16</td>
<td>16.0%</td>
</tr>
<tr>
<td>Availability of existing materials</td>
<td>11</td>
<td>11.0%</td>
</tr>
<tr>
<td>Hosting/technical support</td>
<td>10</td>
<td>10.0%</td>
</tr>
<tr>
<td>Training &amp; workshops</td>
<td>9</td>
<td>9.0%</td>
</tr>
<tr>
<td>Benefits for the classroom (e.g. real-world application, innovative)</td>
<td>9</td>
<td>9.0%</td>
</tr>
<tr>
<td>Curriculum Congress</td>
<td>9</td>
<td>9.0%</td>
</tr>
<tr>
<td>Recruiter interest/demand for SAP</td>
<td>8</td>
<td>8.0%</td>
</tr>
<tr>
<td>Collaboration &amp; connection with other UA members</td>
<td>6</td>
<td>6.0%</td>
</tr>
<tr>
<td>Increased student engagement/interest</td>
<td>5</td>
<td>5.0%</td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
<td>17.0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Impact of SAP on Student Recruiting (at most active schools)

Number of Recruiters
- Companies recruiting for SAP have remained strong even in economic downturns
- Steady increase in number of companies in the last 3 years

Number of Jobs
- Many recruiters looking to fill several SAP positions (some as many as 20)

Salaries
- SAP beginning salaries are running at 20% to 30% over non-SAP beginning salaries (2004 - $52K SAP, $42K non-SAP)
Examples of Successful Programs

- California State University, Chico
- Central Michigan University
- Sam Houston State University
- University of Arkansas
University of Arkansas

- Size of College – approximately 3500
- Number of courses integrating SAP – 12 plus 4 with introductory overviews
- Types of courses – undergraduate and graduate business courses primarily in MIS (ERP certificate and ERP minor)
- Number of students exposed each term to SAP – approximately 500
- SAP software being used – ERP (IDES and BPI), BI, Portals, Netweaver, ERPSim
- SAP Partnerships – Tyson, Wal-Mart, IBM, Dillard’s, Colgate Palmolive, Hitachi, Conoco Phillips
- Student Recruiting – ERP students (especially non-MIS) get more interviews and better job offers
Sam Houston State University

- Size of College – approximately 3300
- Number of courses integrating SAP – 6 (4 undergraduate and 2 graduate)
- Types of courses – Accounting MIS, HR, and Management
- Number of students exposed each term to SAP – approximately 225
- SAP software being used – ERP
- SAP Partnerships – Dow Chemical
- Student Recruiting – Exxon/Mobil, Anadarko Petroleum
Central Michigan University

- Size of College – more than 4000
- Number of courses integrating SAP – 21 (13 undergraduate and 8 graduate)
- Types of courses – Accounting (6), POM/SCM (2), MIS (8), HR (3), and Management (2)
- Number of students exposed each term to SAP – 600+
- SAP software being used – ERP, BI, NetWeaver/Portals, GRC
- SAP Partnerships – IBM, Dow Chemical, Dow Corning, Steelcase, Chrysler, and Whirlpool
- Student Recruiting – SAP student organization, research study shows students taking one or more SAP courses have an average starting salary of more than $3000 higher than non-SAP students
California State University, Chico

- Size of College – approximately 3000

- Number of courses integrating SAP – 31 (25 undergraduate and 6 graduate)

- Types of courses – Accounting (7), Finance (2), POM/SCM (7), Marketing (1), MIS (9), HR (4), and Management (1)

- Number of students exposed each term to SAP – 1200+

- SAP software being used – ERP, BI, NetWeaver/Portals, SCM, CRM, EM, MDM, Business One, GRC

- SAP Partnerships – Chevron, Foster Farms, VSP, EMC, Cap Gemini, IBM, HP, Intel, Cisco, Bose

- Student Recruiting – Over 30% of all companies at COB career fair looking for SAP talent
Modify Existing Course to Include Integrated ERP processes

- Standard Intro to IS
- Standard Intro to Production Management, HR Systems, Accounting Information Systems, Supply Chain, Retailing, etc.
- MIS Capstone (include BI/BW, Crystal Reports, OLAP, simulation game, etc.)

Develop New Courses

- Systems Implementation evolved into ERP configuration
- Systems Administration evolved into 2 course sequence of Systems Admin with SOA including a system install
- Project Management with SAP PS Tools
Workshop Exercise

Break into groups (depending on size)

- Define course objectives
- Discuss how to integrate ERP concepts into existing course
- Where would you want examples, how much hands on is good?, etc.
- Present redesigned course to rest of group
Next Step: Develop Curriculum Plan

A simple document used to accomplish 2 goals:

- Determine scope of SAP software license
- Determine presence of Critical Success Factors

Answer 5 questions:

- What program(s) do you want to use the software in and how do they fit within the department, college, university, etc.?  
- What are the specific courses you have in mind as a starting place and then maybe longer term (although this is harder to pin down) -- just want to see your vision.  
- Who are the faculty who want to get involved and what is their relationship to the university? (discipline, tenured vs adjunct, rank, etc.)  
- What are the funding sources for this? (Realistically you'll need $8K per year plus some travel money to be an active, trained member of the community)  
- What is your link back to the SAP customer/partner base? (Where will the students get jobs? Who is on your industry advisory board, etc.?)

The process can assure faculty buy-in
Questions

Contact: Gail Corbitt (g.corbitt@sap.com)