

## SPECIAL STUDY

### SAP® University Boosts Learning with SAP Learning Solution

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#### IDC OPINION

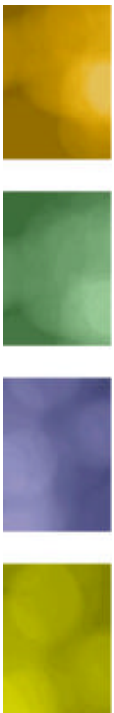
In 2002, SAP® University wanted to implement a learning management solution to streamline the training and skills management of its customers, the 29,000 SAP employees worldwide at the time. The objective was to maintain all learning offerings — classroom courses, SAP e-learning offerings, and third-party e-learning offerings — in one easy-to-use repository personalized for the country, language, and job role of the individual employee. Furthermore, SAP University was looking to automate the administration of the Web-based solution and the integration to existing employee and skills databases.

After SAP University went live with SAP Learning Solution in February 2003, several key performance indicators (KPIs) saw dramatic improvement:

- ☒ *Sales and consulting staff skill levels.* Numbers from the 1,800-employee SAP subsidiary SAP System Integration (SAPSI) illustrate this improvement. In 2002, SAPSI employees booked less than one annual course per employee. After the rollout of SAP Learning Solution to SAPSI in December 2003, each employee booked an average of three courses from January to September 2004, a fourfold increase from the 2002 levels.
- ☒ *Administration costs.* Due to the automated Web site administration and increased student self-service, the administrative cost per course equivalent declined while, the average complexity and localization of courses increased significantly.
- ☒ *e-Learning share of total learning.* The integrated solution made it easier for employees to search, locate and attend e-learning courses. This played well into SAP's overall strategy of increasing the use of the cost-effective e-learning. In 2002, 25% of the total training was delivered as e-learning. By 2004, this percentage is estimated to reach 42%.

The financial impact of the implementation of SAP Learning Solution, measured over five years, after taxes, can be summarized as follows:

- ☒ The return on investment (internal rate of return after taxes) was 26%.
- ☒ The initial investment paid itself back after a period of 35 months.
- ☒ The main savings resulted from staff reassignment due to Web site automation, automated reporting, electronic diplomas, and employee learning self-services (online pre-booking and cancellation). Increased use of e-learning preparation to classroom courses also enabled SAP to save training costs.





## IN THIS STUDY

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### Introduction

SAP University is responsible for the internal training and development of the 31,500 employees worldwide of SAP AG. Its mission is to "drive SAP's competitive advantage by developing people with tomorrow's strategic knowledge and capabilities." Organizationally it is anchored under the global HR department.

SAP University develops and delivers training on management, SAP solutions, software development, and on topics such as sales skills, project management, and economics. It maintains a local training facility near SAP Walldorf, Germany headquarters and implements personal development systems and processes such as talent management and performance feedback. Besides traditional instructor-led training, SAP University uses e-learning for training and knowledge transfer. e-Learning can be defined as the delivery of learning by electronic means. Scenarios include self-paced learning with interactive presentations or simulations of live events, which are broadcast over the Internet.

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### The Challenge

In 1999, SAP launched the "SAP University Learning Portal" for its employees. The learning portal gave employees the opportunity to search both classroom courses and e-learning courses. Although it made course search and booking easier for the employees, the solution was complex and costly to maintain:

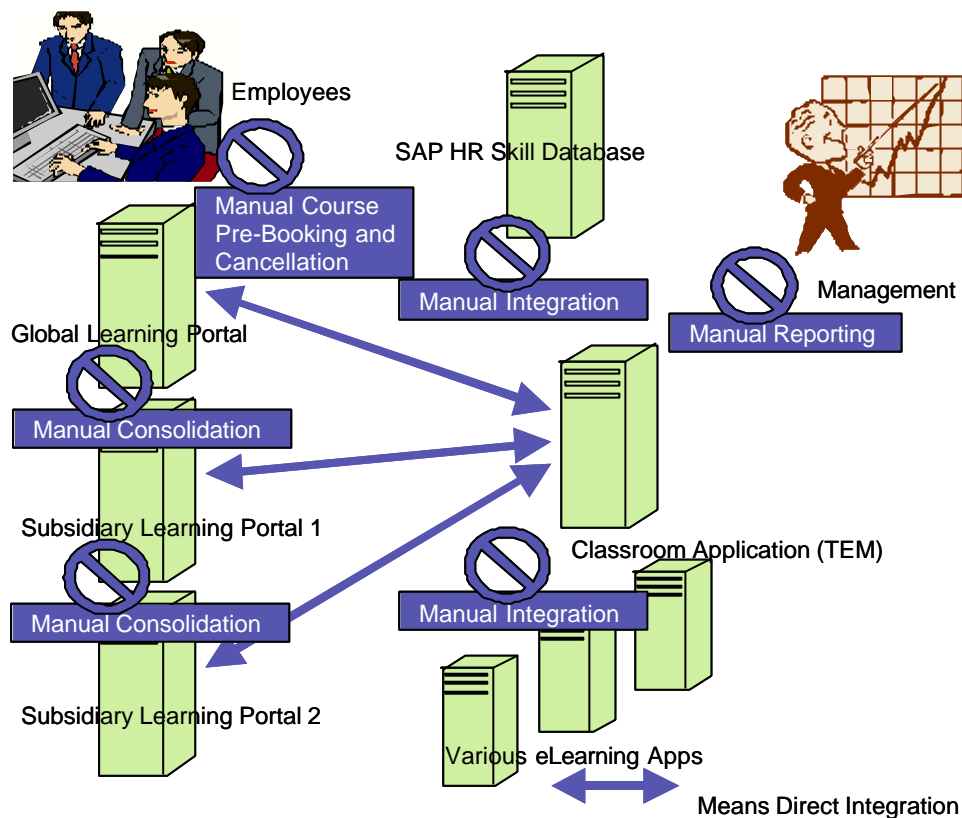
- ☒ *Changes were made manually.* The learning portal consisted of static Web pages that had to be changed every time e-learning courses were changed. A new e-learning course generally resulted in four to six page changes, and more than 2,000 page changes were executed annually. When numerous new courses were launched as part of a large conference, the necessary catalog changes could take up to three weeks to implement.
- ☒ *Consolidated reporting was manual.* As critical training initiatives were launched, SAP executives required information on training attendance by organization, employee groups, and geographies on a bi-monthly basis. This data had to be gathered manually from different classroom-based and e-learning administrative applications, and took a huge effort to collect, aggregate, and present.
- ☒ *Integration to the mySAP™ ERP Human Capital Management solution (mySAP HCM) was manual.* When an employee passed a course and gained new skills, the employee had to update his or her skill profile manually. Planned updates from the learning applications to employee performance management applications were also manual.
- ☒ *Localization was complex.* As large SAP subsidiaries outside Germany wanted to present the learning portal in local languages, featuring local courses, each subsidiary had to maintain the local installation manually. Local staff worked on maintaining these localized editions of the learning portal, spending an average of 50 workdays annually per subsidiary on this task.
- ☒ *The portal was not personalized to the individual employee.* This meant that employees were presented with many courses that were irrelevant to their job

roles. Also, small and medium-sized subsidiaries with no localized version of the portal found it less relevant for their particular needs.

- ☒ *The portal did not offer full self-service.* Although employees were able to book courses online, other functions such as pre-booking, course cancellation, and course certificate request had to be made via phone or e-mail. This required administrative staff to service such functions to employees.

**FIGURE 1**

Previous Learning Solution at SAP University



Source: IDC and SAP, 2004

Figure 1 illustrates the manual intervention points in the learning solution prior to the implementation of SAP Learning Solution.

After having implemented an SAP-based training and event management application in 1997, and the learning portal in 1999, SAP University began to look for ways to make the learning administration more efficient during the summer of 2001.

According to Thomas Jenewein, project manager at SAP University, "We had too many manual processes and we needed much more flexibility to accommodate the expected growth of SAP. Furthermore, the learning offerings multiplied with the increased breadth and depth of the SAP product portfolio and the many new e-learning offerings appearing. We clearly needed a new efficient application platform to base our administration upon."

## The Solution

SAP was looking to implement a new learning management solution in order to automate tasks and thus make the existing solution more efficient. More important, SAP aimed at creating a new platform that would make it easier to connect the learning administration applications to other applications, such as employee performance management applications and employee skills database. Finally, SAP wanted to consolidate all learning systems in order to reap economies of scale by sharing the same application globally. At the same time, SAP wanted an easier way for employees to locate, book, and execute the required learning activities.

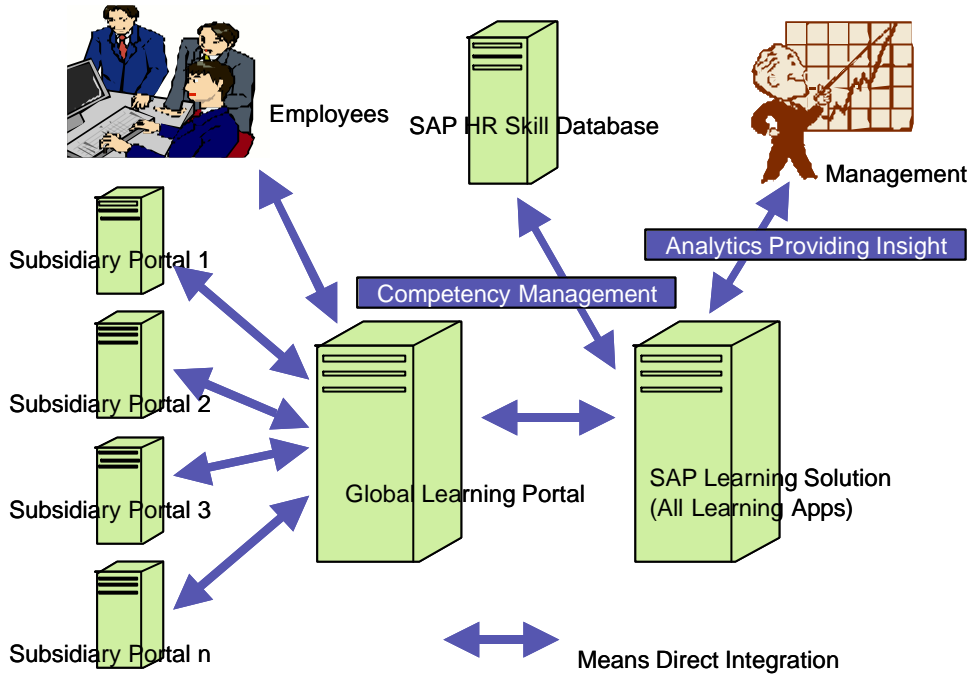
In 2001, SAP decided to base the new consolidated and integrated learning management solution on SAP Learning Solution instead of a stand-alone learning management solution for a number of reasons:

- ☒ *It extended the infrastructure already in place.* The existing SAP training and event management solution could be migrated to SAP Learning Solution, thus protecting the investment already made. Existing data and customization could be used without additional efforts, and SAP Learning Solution was integrated into mySAP ERP HCM.
- ☒ *SAP University could provide important feedback to SAP's software development process.* SAP University began the implementation process while SAP Learning Solution was still under development. Although this approach prolonged the implementation somewhat, it enabled SAP to harvest and leverage the early adopter experiences of SAP University in the final phases of the SAP Learning Solution development.
- ☒ *SAP Learning Solution replaced custom applications with easier-to-maintain standard software.* This helped achieve the objective of reducing SAP's annual internal IT costs set by the company's executive board in 2000. Following the board's direction, no new custom-built applications were allowed.

Figure 2 shows how SAP Learning Solution enabled SAP to consolidate its learning management infrastructure.

**FIGURE 2**

SAP Learning Solution at SAP University



Source: IDC and SAP, 2004

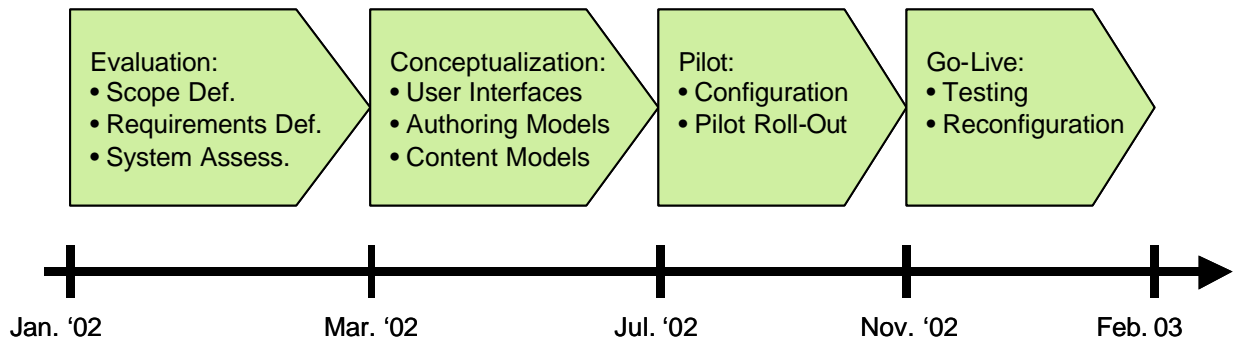
**Implementation Process**

The implementation kicked off in January 2002. The project management was handled jointly by SAP University and SAP's IT department.

The first phase consisted of scope determination, requirements definition, and assessing the current systems landscape. The second phase involved concept definition focusing on user interfaces and definition of content and authoring models. The third phase was the actual configuration of SAP Learning Solution, which led to a pilot rollout and test in November 2002. The planned go-live date of January 2003 was postponed three weeks due to the configuration changes in the authorization management process and user interface. The team also applied software patches to the SAP Learning Solution product, which was still in beta version. In February 2003, the final solution went live. The implementation process is illustrated in Figure 3.

**FIGURE 3**

Project Time Line



Source: IDC and SAP, 2004

When SAP Learning Solution went live in February 2003, it was available as in a country-specific format for Germany, and as a global format delivering mainly e-learning for the rest of the worldwide employees. By February 2004, one year after the go-live date, 27% of the total worldwide workforce was using SAP Learning Solution. By July 2004, adoption had increased to 55% of the total global workforce, and in Germany, adoption had passed 80% of the total workforce. SAP experience shows that SAP Learning Solution adoption rate for a country generally increases sharply after the release of a localized solution has been implemented.

SAP expects the maximum possible adoption rate to be around 90%, since certain teams do not at present attend learning courses.

**Implementation Challenges**

The 14-month implementation was not without challenges:

- ☒ *Release and version management.* SAP Learning Solution was not yet released when the project began in January 2002. The overlapping time lines of the initial product development and the implementation project required additional effort. Prototyping and mock-up creation was done on top of beta code, and the project team spent time delivering product feedback to SAP Labs. New patches were issued to the beta version of SAP Learning Solution until the final release of the product. These new patches caused the project team to spend time upgrading and regression testing.
- ☒ *Data migration.* Internal security guidelines that had to be followed made the data migration difficult. As SAP Learning Solution was installed as a plug-in to SAP's production system for Europe, Middle East, and Africa, automatic data import ("batch input" in SAP terms) was not allowed for internal security reasons. So, student workers and SAP University staff created all courses and other education master data manually in the new system. This proved time-consuming, especially as there were a large number of e-learning courses to be set up.

- ☒ *Deployment platform restrictions.* For cost and consolidation purposes, the project team was required to implement the new application on existing SAP infrastructure without adding new hardware. This consideration required the project team to spend some time developing a hardware concept and adapting the scope accordingly.
- ☒ *Definition of common standards and processes.* The consolidation of all learning applications into one global solution required definition of new education standards and harmonization of existing standards and processes. This required efforts in consensus-building and getting management buy-in and sign-off throughout this large global organization.
- ☒ *Reconfiguration.* The core administrative training and event management application had to be reconfigured to support the requirements of SAP Learning Solution. This enabled SAP University to eliminate previous custom-coded enhancements in the training and event management application, thus making the support easier.
- ☒ *IT and business unit alignment.* The project was driven by the business unit, SAP University, and SAP's IT department jointly. The focus of the IT department was ensuring smooth integration of the new application into the existing IT infrastructure. The IT department also carried out all the technical tasks of the project. Therefore, SAP University had to ensure that approval or buy-in from the IT department of all new ideas was necessary, which required substantial coordination between the two units.

The majority of these challenges were calculated into initial project planning and scheduling, and did not cause delays of the implementation overall. However, the pilot phase resulted in a large number of change requests in areas such as user interface, authorizations, and workflow, causing a three-week delay.

The project did not have full-time participants, which explains the relatively long implementation period. The sum of resources used in the implementation was approximately two man-years.

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## **Benefits**

SAP Learning Solution provided SAP with a new, consolidated learning platform for all of its worldwide employees. The main overall benefits of the solution are:

- ☒ *Faster dissemination of critical knowledge.* SAP usually has one or more significant new product launches per year, and SAP NetWeaver™ is the latest example. For a new product to sell and get customer acceptance around the world, it is vital that sales and pre-sales people are well versed in the new product area. Using SAP Learning Solution, SAP was able to create obligatory educational curriculums of job roles and geographies, track the learning progress, and constantly improve the courses for better course penetration and learning levels. SAP was also able to use combined e-learning and classroom training in a blended learning approach, since all learning resides in one application.
- ☒ *Improved access of individual employees to learning.* SAP Learning Solution provides employees with an overview of all SAP's learning offerings, personalized for the job role, organization, language, and country of the

individual. This reduces the time consumption in locating and booking courses, and boosts the adoption of cost-effective and flexible e-learning courses.

- ☒ *More cost-effective operation of SAP University.* As all the manual integration points shown in Figure 1 have been automated, SAP University staff that once performed these tedious tasks can now perform high-value and forward-oriented work. Also, SAP employees can now pre-book and cancel courses and receive certification via self-services, freeing up SAP University staff for other tasks.
- ☒ *Better planning and reporting on employee learning.* As pre-booking for all learning courses are entered directly into SAP Learning Solution, course planning has been facilitated. The reporting facilities by course, job role, organization, and geography enables management to understand, support, and possibly change critical educational campaigns.

In total, these benefits enable SAP to bring new products to market faster by educating sales and consulting staff rapidly in new strategic products. This ability is key to SAP's ability to maintain its competitive profile in the business application market.

IDC has measured the impact of the implementation on three KPIs related to employee learning, analyzed in detail below.

#### ***Increased Intensity of Critical Knowledge Transfer***

Data from the SAP subsidiary SAPSI, which is currently being incorporated into SAP AG, illustrates the increased learning intensity as a result of the implementation of SAP Learning Solution. SAPSI has more than 1,800 employees, who formerly had to book courses manually. An administration staff of three employees handled all course bookings, which amounted to approximately 1,100 bookings in 2002. Since the implementation of SAP Learning Solution in December 2003, the number of course bookings has gone up more than four times, to 5,206 bookings from January to September 2004. The availability of self-service and localized content of SAP Learning Solution is a key factor behind this increase.

#### ***Reduced Administrative Overhead per Course***

SAP University has reduced its administrative overhead per course equivalent delivered by 5% from 2002 to 2004 (current forecast) and is mainly a result of fewer administrators delivering a stable amount of course equivalents. The cut-back in administrative personnel resulted from the automation of repetitive tasks, such as learning portal maintenance and course cancellation and pre-booking.

Interestingly, during the same period, emphasis has shifted from basic, mass-produced introduction courses to new employees, to more localized and higher-value learning. Examples of the new, complex course offerings are management training and sales workshops tailored to specific industries. SAP University managed to reduce its administrative spending per course, while the average complexity level of courses increased significantly.

The increased efficiency is illustrated by the SAPSI example above. Even though the number of booked courses has gone up five times from 2002 to 2004, the three-person administration staff has not been augmented. Using SAP Learning Solution, each administrator handles four times the workload thanks to the automated processes in the solution.

### ***Increased e-Learning Share of Total Learning***

As e-learning courses become richer and more advanced and interactive, they can to a certain extent replace classroom-based courses. e-Learning courses are generally most suitable for basic courses, product-oriented education, and courses with an individual evaluation element. SAP believes that e-learning, which is more cost-effective than classroom courses, has been underutilized due to the fragmented nature of the previous e-learning solutions.

However, this is not to say that SAP wants to replace classroom courses completely. As Nancy Taipale, vice president of Global Sales Training, explains, "The biggest benefit of classroom training is that it enables employees to socialize, exchange knowledge, and build informal networks. Furthermore, certain skills are best trained in a classroom setting. However, e-learning is becoming fully interactive and it is good for broad syndication of fundamentals training which must be deployed quickly and easily. e-Learning allows employees to access the specific training needed on their own schedules where it is most convenient for them."

In 2002, e-learning constituted 25% of the total course equivalents delivered by SAP University. By 2004, according to the current projections, this share will rise to 43%. This is due to a gradual substitution of classroom training by e-learning.

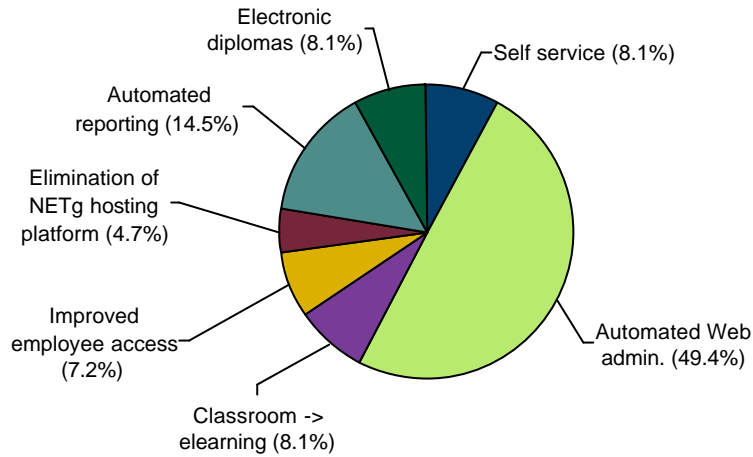
### ***Return on Investment***

SAP University's implementation of SAP Learning Solution is expected to break even by the end of 2005, 35 months after the initial rollout. After a period of five years, the investment will have generated €399,000 in net present value after tax. This corresponds to an annual after-tax return of 26%.

Apart from the key strategic benefits of the implementation discussed above, SAP University reaped a number of tangible benefits. These benefits mostly consist of reductions of full-time employees due to automation of Web administration, reporting, and booking administration. The redundant employees have all been reassigned to new value-adding tasks such as creation of localized education, course planning, and content evaluation. Other benefits include substitution of classroom learning with cost-effective e-learning, and reduced employee time consumed booking courses. Figure 4 shows the realized and projected benefits by type.

**FIGURE 4**

Total Benefits by Type (%)



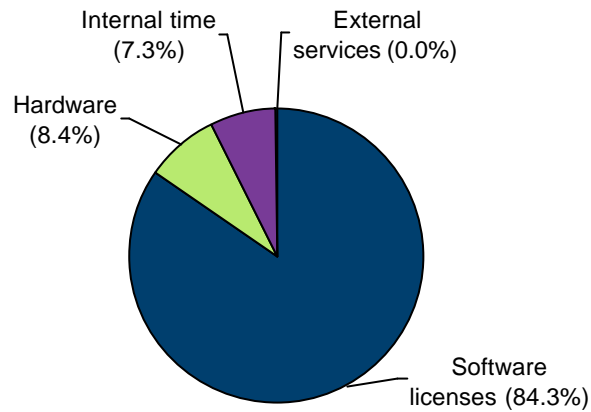
Source: IDC, 2004

The relatively low proportion of tangible benefits due to employee self-service reflects the fact that significant levels of self-service were already available in the previous solution.

The total cost of SAP Learning Solution for the full five-year analysis period amounted to €1.79 million, and is broken down in Figure 5. The vast majority of costs are made up of the SAP software licenses. The cost of the licenses has been estimated based on list price plus appropriate discount for a company of SAP's size. Since the solution was fitted into existing hardware and infrastructure, the hardware cost component is relatively limited and made up of an annual overhead charge. The use of existing hardware added to the complexity of the implementation and caused extra use of internal implementation time used for integration and system testing. Finally, no external consultants were used.

**FIGURE 5**

Total Costs by Type (%)



Source: IDC, 2004

### Lessons Learned

One of the key lessons learned relates to successful deployment of e-learning. Successful e-learning is reflected by high adoption rates, frequent usage, and positive course feedback. Localization and personalization proved to be key drivers of success. "As soon as a local learning portal has been launched for a country, we see the adoption rate and usage increase dramatically," says Thomas Schmitt, e-learning manager at SAP University.

Personalization is also important, both in the sense that the employee sees relevant information for his or her job role and geography, but also in the sense that the portal actively suggests what courses would be more relevant. Schmitt continues, "SAP co-founder Hasso Plattner made a very visionary presentation on the topic of enterprise services architecture that we felt was relevant for all SAP employees. But few people accessed the speech on the SAP intranet. We included the Webcast of the speech in the personalized user interface of the learning portal, and suddenly the number of employee accessing the speech skyrocketed."

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## Future Plans

SAP University has set the next goals for its use of SAP Learning Solution:

- ☒ Link learning achievements to online job evaluation of the employee. This could imply cycles in which the employee evaluation results in a training plan that then feeds into SAP Learning Solution, and the course results from SAP Learning Solution feed back into the employee job evaluation process.
- ☒ Enhance the reporting capabilities of SAP Learning Solution through SAP Business Warehouse. This will allow managers and SAP University staff to access a wide range of statistics on learning online in a so-called "learning cockpit." This also entails increased use of the customer relationship management features of SAP Learning Solution to heighten the penetration and adoption of SAP University course offerings.
- ☒ Correlate sales performance and learning attendance to understand the value of individual learning initiatives and target new learning initiatives. Taipale explains: "To the extent that we can demonstrate a positive correlation between sales training and sales performance, we have a powerful selling point when urging sales staff to attend new courses."
- ☒ Distribute the administration of SAP Learning Solution to particular countries, allowing them to create and maintain local course offerings and local language user interfaces. IT manager Marijan Nedic says, "Now local subsidiaries can use SAP Learning Solution and localize it for their country, instead of creating a duplicate learning portal as was the case before." By May 2004, two-thirds of all SAP employees had access to localized versions of SAP Learning Solution.
- ☒ Increase use of the collaboration feature of SAP Enterprise Portal, the user interface of SAP Learning Solution. Manuela Eisenhuth, classroom education manager at SAP University, explains: "Classroom courses could use online discussion forums both during and after courses, and we expect to launch group assignments with Web-based collaboration for classroom courses, thus expanding the concept of blended learning."
- ☒ Consolidation of all educational administration in a shared service center, including application maintenance. This shared service center will host HR administration for Europe and is expected to bring down the costs of both IT and administration. The transition to a shared service center also implies an upgrade of the training and event management application with new features available to SAP University.

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## Appendix: ROI Details

The objective of the ROI analysis is to demonstrate and quantify the value of a software solution, based on observed and quantified data.

IDC applies certain assumptions across SAP ROI case studies to ensure comparable results:

- ☒ An average corporate tax rate of 40%. Most European countries have corporate tax rates in the range of 30 to 40%. IDC has selected 40% to ensure a

conservative, yet comparable after-tax view of the net benefits of a software solution.

- ☒ A discount rate of 10%. The 10% rate reflects an average cost of capital of approximately 5% plus an added risk premium of five percentage points. The risk premium reflects the fact that future, projected cash flows could change due to unforeseen developments and events.
- ☒ An analysis period of five years. Research shows that investments in ERP applications have useful lives in the five- to ten-year range, depending on the industry, application area, and size of organization. The five-year analysis period represents a common, conservative assumption of the useful life of an investment in ERP software.

After conducting multiple on-site interviews, IDC applied the incremental, observed, and quantifiable costs and benefits in an ROI calculation. The result of this calculation is shown in Figure 6.

The ROI of 26% was calculated using the internal rate of return method and represents the average annual rate of return after taxes. It is comparable to the annual after-tax yield of investment alternatives, such as stocks and bonds.

The net present value after taxes of €399,000 represents the net benefit of the entire project to SAP AG in today's money. The project added €399,000 to the total market value of SAP AG, assuming a transparent equity market.

## FIGURE 6

### ROI Calculation

<b>Common Assumptions</b>						
Average Corporate Tax Rate	40%					
Discount Rate	10%					
<b>Cash Flows (€M)</b>						
	Initial	Year 1	Year 2	Year 3	Year 4	Year 5
Net Cash Flow After Taxes	-1.03	0.47	0.40	0.40	0.28	0.28
Discounted Net Cash Flow After Taxes	-1.03	0.43	0.33	0.30	0.19	0.18
Cummulative Discounted Net Cash Flow After Taxes	-1.03	-0.60	-0.27	0.03	0.22	0.40
Annual Rate of Return After Taxes	26%					
Five-Year Net Present Value After Taxes (€M)	0.399					

Source: IDC, 2004

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