



## AT A GLANCE

### Company

- Name: China Everbright Bank
- Location: Beijing
- Industry: Financial services
- Products and services: Banking, securities, insurance, and investment management
- Total assets: €49.9 billion
- Employees: 10,000
- Web site: www.cebbank.com
- Partners: Accenture, Lenovo Group Limited

### Challenges and Opportunities

- Improve risk management
- Improve financial performance
- Comply with government regulations

### Objectives

- Develop business in a proactive, sustainable way
- Increase speed of financial innovation
- Create more efficient organizational structure
- Increase profitability and competitiveness

### Solutions and Services

- SAP® ERP application
- SAP for Banking solution portfolio

### Approach

Replace outdated legacy software for financial accounting, management accounting, asset liability management, payroll, trading back-office operations, and reporting

### Implementation Highlights

- All SAP solutions went live simultaneously at 300 branches across China
- Productive relationships were established between SAP and implementation partners Accenture and Lenovo

### Why SAP

- Leading enterprise resource planning solution on the market
- Industry-specific functionality for the banking industry
- Best practices supported by SAP

### Benefits

- Quantitative Benefits
  - ROI 163% over a 7-year period
  - Net present value €3.65 million over a 7-year period
  - Internal rate of return 39.2%
  - Payback period of 3.72 years
  - Annual overall savings of €1.55 million due to SAP solutions
  - 24,000 employee-days saved due to increased efficiency and automation
- Qualitative Benefits
  - Improved operational efficiency
  - Improved decision making
  - Reduced operational risk
  - Support for regulatory compliance
  - Maximized shareholder value

## SAP® SOFTWARE ENABLES GROWTH FOR CHINA EVERBRIGHT BANK

### EXECUTIVE SUMMARY

The great economic prosperity of China means dramatic growth for the nation's banking industry – if you can stay ahead of the competition. China Everbright Bank (CEB) is a major force in China's banking sector, but it faces stiff challenges in its quest to lead the industry.

A few years ago, CEB management realized it had to make changes to improve its risk management and financial performance while satisfying demanding customers and complying with strict government regulations. In 2003 the company decided to replace its many legacy IT systems with state-of-the-art accounting management software to help it achieve these goals. After evaluating the leading IT products on the market, it chose the SAP® ERP application and the SAP for Banking solution portfolio.

Complementing the industry-leading functionality that SAP ERP offers in the areas of financials, human capital management, operations, and corporate services, the SAP for Banking portfolio provided tools for banking analytics such as profitability analysis and asset liability management. After implementing the SAP application, CEB performed ROI analyses that showed the company had chosen the right software for its needs. In addition to increased efficiency, CEB has realized significant annual savings in many functional areas of its business – all a result of introducing SAP software.

## CONTENTS

China Everbright Bank .....	2
Challenges and Opportunities .....	3
Strategic Goal .....	4
Approach .....	5
Implementation .....	5
Results .....	6
Next Steps .....	12
Lessons Learned .....	13
Appendix .....	14

## CHINA EVERBRIGHT BANK

Since it was established in 1992, China Everbright Bank (CEB) has matched its steady growth and remarkable business performance with an innovation that ensures its customers consistently high-quality financial services.

The first national commercial bank in China to have the national government as controlling shareholder, CEB has attracted international financial institutions as investors as well. CEB is part of the state-owned, Beijing-based China Everbright Group, a group of financial services companies that provide banking, securities, insurance, and investment management services.

Due to outstanding growth, by the end of 2005 CEB had over 400 banking offices in 36 major cities and 23 provinces and regions nationwide. With total assets of €49.9 billion, €39.8 billion in deposit products, and €29.9 billion in lending products, CEB has come to exert considerable influence on the economic and social development of China.

## CHALLENGES AND OPPORTUNITIES

The banking system in China has been evolving since the government introduced economic reforms in the early 1980s. The climate of gradual, continuous change that resulted from these reforms has been posing challenges and providing opportunities for both local and foreign banks.

As a local player in this competitive environment, CEB faces the following challenges:

- **Improve risk management** – Risk control, a requisite for competing successfully in the banking industry, involves a long-term commitment that CEB can only fulfill by enhancing its internal and external risk management.
- **Meet diverse customer demands** – CEB must become adept at satisfying the many different types of demand that come from its diversified range of customers.
- **Beat the competition** – The Chinese financial market offers great opportunity and fierce competition. CEB must closely monitor the market and the competitors to be able to establish the right goals for leading the industry.
- **Comply with regulations** – Along with pressure from competitors and customers, CEB must satisfy regulatory demands in order to comply with government standards.
- **Improve financial performance** – To keep up with competitors, CEB must increase its return on assets and equity. To achieve this, the company must improve profitability by increasing efficiency and cost control.

In meeting these challenges, CEB will find itself supported by a host of favorable circumstances offering the following opportunities for even greater success:

- **Growth potential** – The burgeoning economic development of China can mean enormous growth potential for the Chinese banking industry.
- **Interest rates** – National reforms on interest rates will help commercial banks obtain new customers.
- **Disposable income** – The increased wealth of the Chinese people results in more income for spending and investing, which benefits the local banking industry.
- **Market development** – The development of the capital and insurance markets offers more opportunities for the fee-based businesses of commercial banking.

## STRATEGIC GOAL

The overall strategic goal of CEB is to become a standardized, listed commercial bank with high profitability and balanced growth. The company plans to achieve this goal by following these strategies:

- Operate in a proactive, consistent, and sustainable way
- Strike a balance between speed and quality, profitability and scale
- Increase the speed of financial innovation
- Create a more efficient business model
- Increase profitability and competitiveness through more effective management

To execute these strategies, CEB requires automated management accounting software. The effectiveness and efficiency of the software can influence cost management, risk management, and financial control. It can also enhance the company's employee-performance appraisal function.

To find the right accounting technology for the bank, CEB diligently compared local and international brands of enterprise resource planning (ERP) software and banking software. In 2003, the company chose the SAP® ERP application and the SAP for

Banking solution portfolio. The software offered a rich variety of functionality, including tools for analytics, financials, human capital management, and operations and corporate services, as well as banking-specific applications for performing profitability analysis and asset liability management (ALM).

CEB chose SAP software over other brands because of its comprehensive functionality and support of best practices in management accounting. As its implementation partner, CEB chose Accenture. For technical support, it selected Lenovo Group Limited.

**“Our challenge was to find a solution that could offer innovative functionality to help us adopt internationally standard best practices while taking into account the realities of the Chinese market. We chose SAP because it offers world-leading solutions. Coupled with an excellent implementation team from Accenture and Lenovo, the financial management of our 300 branches can now be centralized to meet the demands of our business.”**

Wu Qing, Vice President, China Everbright Bank

## **APPROACH**

Based on SAP ERP and the SAP for Banking solutions, CEB totally revamped its outdated legacy software for financial accounting, management accounting, ALM, payroll, trading back-office operations, and reporting. CEB deployed the solutions using a phased implementation approach.

## **IMPLEMENTATION**

Phase 1, beginning in early 2004, introduced the implementation of SAP ERP and its cross-industry applications. Later that year, all accounting solutions went live at 300 branches across the country simultaneously. HR payroll, trading back-office operations, and reporting and analytics solutions went live in fall 2004.

In 2005 Phase 2 brought in the SAP for Banking solution portfolio, and the company went live with profitability analysis and ALM for corporate business and trading. Later that year those solutions were rolled out to the bank's retail business.

CEB recently began Phase 3, an implementation based on the SAP Travel Management application and workflow and portal functionality to support self-service travel and expense management.

# RESULTS

In July 2006 CEB conducted a postimplementation business assessment to determine how well the SAP project had helped the company meet its strategic objectives. The study used qualitative and quantitative assessments – as well as a detailed ROI analysis – to define and measure the strategic benefits of the SAP solutions.

## Strategic Benefits

SAP software made a substantial impact on a wide range of CEB’s business operations and bank management processes. Distributed across five different categories, the company realized the following benefits:

- Improved operational efficiency
- Improved decision making
- Reduced operational risk
- Support for regulatory compliance
- Maximized shareholder value

**“As a result of the SAP project, CEB is the first bank in China to use the same practices as international banks. We are also continuously implementing the new functionalities of SAP solutions around our current SAP applications, expanding the footprint to meet more business processes and requirements.”**

Wang Jingwen, Deputy General Manager of IT, China Everbright Bank

## Benefits by Business Function

CEB has seen benefits in many of its business functions, ranging from its financial accounting operations to reporting, trading processing, HR payroll, planning, and ALM activities.

		Benefits Categories					
		Business					IT
		Improve Operational Efficiency	Improve Decision Making	Reduce Operational Risk	Support Regulatory Compliance	Maximize Shareholder Value	IT Benefits
Areas	Financial Accounting	●	●	●	●	●	●
	Reporting	●	●	●	●	●	●
	Trading Processing	●	●	●	●	●	●
	HR Payroll	●	●	●	●	●	●
	Profitability	●	●	●	●	●	●
	Asset Liability Management	●	●	●	●	●	●
Benefit Level		● No Benefit	● Low Benefit	● Medium Benefit	● High Benefit	● Very High Benefit	

Figure 1: Benefits Summary

## Financial Accounting

The SAP solutions standardized and automated accounting processes, which can now be handled centrally by branch finance employees. This significantly reduced operating costs and headcounts, while the monitoring processes in the SAP software support consistent cost control. Financial accounting functionality includes:

- **Processing and year-end closing** – Before the introduction of the SAP solutions, the general ledger (GL) was embedded in the core banking system, which burdened the already heavy processing workload. Now the GL functions are performed by the back-office software, which accelerates, simplifies, and automates the year-end and month-end closing processes.
- **Fixed-asset management** – Fixed assets were managed manually at the subbranch level, which was time-consuming and inefficient. With the fixed-asset management function from SAP, processes such as depreciation are automated and included in expense accounting. Resulting benefits include reduced headcount and increased data transparency.
- **Expense accounting and cost center accounting** – These processes used to be performed manually at the subbranch level with no software support. Now, centralized, automated functionality from SAP contains GL, detailed expenses data, and fixed-asset accounting data for the entire bank. Consistent expense-control processes have been implemented, and flexible queries and reports are available for users at different levels of the organization. In addition to an average reduction of nearly 20,000 employee-days, cost-accounting standards and effective cost control are supported and expense data is available in real time with an audit trail.

**“With the SAP software, we have set up a branch-level expenses reimbursement center, which helped to standardize the expenditure processes and effectively enhance cost control within the bank. We also used the SAP NetWeaver Business Intelligence component to replace the previous manual data collecting and reporting process, which has improved user efficiency and reduced operational cost. Each branch now has access to more detailed information and we can do multidimensional analysis of cost and profit.”**

Lu Weidong, Deputy General Manager, Beijing Branch Financial and Planning Department, China Everbright Bank

## Reporting

Before the SAP solutions were implemented, CEB was doing its best to work with decentralized legacy systems located at its 34 branch offices where maintenance and data loading were performed locally. The SAP NetWeaver® Business Intelligence (SAP NetWeaver BI) component changed all that. As the bank-wide financial reporting system for CEB, SAP NetWeaver BI handles both internal financial reporting and external regulatory reporting. The software has reduced IT complexity and local IT maintenance support, which has lowered costs, improved user efficiency by centralizing the data and processes, and enabled timely querying and reporting to meet regulatory requirements. Used by more than 200 users in the company, SAP NetWeaver BI is centrally maintained in the main CEB office. Reporting functions include:

- **Data preparation** – Prior to implementing the SAP solutions, the 34 branches and subbranches used a local reporting system that was inefficient – reporting used to take 40% to 50% of one full-time employee’s work time. With the SAP NetWeaver BI component serving as the reporting system for the entire bank, the complexity and operational support costs of reporting are much lower, manual data adjustments have been reduced from 25% to 5%, and data accuracy is very high.
- **Regulatory reporting and internal reporting** – Regulatory reports were generated using local legacy reporting software, which was very time-consuming. Internal reporting took 45% and regulatory reporting took 25% of a full-time employee’s work time. With SAP NetWeaver BI, efficiency of the reporting function improved – average time spent on internal reporting and regulatory reporting was reduced by 50%. Data is transparent because SAP NetWeaver BI is not only used by reporting analysts but also by finance and business employees to support their daily work. The company’s prompt reporting meets regulatory requirements.

## Trading Processing

Integrated with the front-end software, the SAP solutions handle trading back-office business processes using straight-through processing. The SAP software also supports international accounting standards and enables multi-GAAP parallel accounting, which improves risk control, standardizes processes, improves efficiency, and supports regulatory requirements. Functionality for trading processing includes:

- **Trading accounting** – With CEB’s legacy software, trading accounting was performed manually through back-office processes that were prone to errors. The SAP solutions automated this function, resulting in a zero error rate in payment processing since the system went live. Efficiency and risk control improved, and processes were standardized. GL account adjustments that used to take a half a day per month now take only a few minutes.
- **Trading reporting and queries** – Previously, information for trading reporting and queries was available only at a high level. The powerful reporting and query functionality of the SAP software allows for daily ad hoc evaluation and disclosure to all levels of the organization, ensuring prompt and continual regulatory compliance.

**“Through the SAP software implementation, we realized straight-through processing, reduced manual processing, and lowered error rates, greatly enhancing risk control, data centralization, and data sharing. The solution provides even more functionality than we expected, such as flexible queries, drilling down from position to transactions, and cash flows.”**

Qu Jingchun, General Manager, Accounting and Settlement Department, China Everbright Bank

## HR Payroll

The entire payroll process at CEB used to be performed manually. Now, the salary, bonus, and benefits payments for the company's 10,000 employees are handled by the SAP software. The payroll process is centralized at company headquarters – department and branch managers can easily obtain cost center and personnel information that was difficult to access before. By the end of 2006, the software will manage payroll for 3,000 temporary employees as well. HR payroll functions include:

- **Personnel data maintenance** – The SAP solutions allowed CEB to centralize the data maintenance process at the branch level, which eliminated the need for manual maintenance at 80 subbranches.
- **Payroll execution** – In the past, payroll was performed at several different levels of the bank and, again, much of the process was performed manually. Now payroll is centralized at headquarters and at the branch level, the time to complete the payroll process has been reduced by 30%, errors have been eliminated because finance and payroll are integrated, and CEB's HR policy can be complied with throughout the bank.
- **Payroll reporting** – Previously, data for payroll statistical reports had been compiled manually, a process that took three to four days. With the SAP software, the process takes a half day. In addition to vastly improved efficiency, detailed personnel data is transparent.

## Profitability, Performance, and Financial Planning

Of all the functions included in the SAP software implementation at CEB, profitability analysis has received the closest attention from the company's management. Most banks in China have a "volume mind-set" that has them fixed on quantity and striving for more assets, more customers, and more branches. At CEB, profitability is just as important as volume.

Before the SAP solutions were introduced, CEB used accounting profit to measure company performance, with profit information available only at the branch level. Now, with the SAP solutions, profitability information is available at many levels of the company and provides the basis for performance evaluation for both business units and employees.

Another important aspect of profitability is cost management. Banks incur costs from funds, risk, taxes, and overhead. With the support of the SAP software, costs can be attributed to the appropriate department. The multidimensional cost data that the SAP software provides is a necessary prerequisite for analyzing profitability and making sound business development decisions. The results are increased profitability and maximized shareholder value through better business reporting, analysis, decision making, and cost control.

The integration of the profitability analysis and reporting tools from SAP enables users to perform management reporting and analysis through either an intuitive Web-based or Excel-based user interface, with the SAP software system providing multidimensional views into the organization's profitability data.

Planning functions include:

- **Economic profit calculation** – In the past, this calculation was made using funds transfer pricing (FTP) but was not performed at CEB. Now, however, the SAP solutions have made it possible for CEB to adopt FTP and other cost accounting methods. CEB can see the benefits in enhanced data integrity, increased data transparency, better regulatory compliance, and a shift in perspective from volume to profitability.
- **Multidimensional profitability analysis** – Managerial accounting reports used to be based solely on accounting information. Now, the SAP software provides business users with multidimensional, interactive drill-down reports (for customers, products, and business units) that can be used to implement new sales and marketing strategies and increase the visibility of profitability information within various levels of the bank.
- **Performance management** – At CEB, performance had been measured at the organization level, with no consistent measurement for deposit unit or loan unit contributions. With the SAP software, the performance of branches, business units, and managers is measured by economic profit. This increases the transparency and reliability of organizational-performance measures.

- **Financial planning and budgeting** – Planning was previously performed on the branch and subbranch level, with the focus on accounting profit. The SAP software now has CEB basing its financial planning on economic profit in alignment with the strategic objectives of the bank. This increases shareholder value.

### Asset Liability Management

The SAP solutions proved to be very important for CEB's ALM processes. The bank uses the quantitative analysis and gap report functionality provided by the SAP Asset Liability Management application to forecast and manage interest-rate risk and liquidity risk and to fortify its capability in market risk management. This helps management make strategic decisions on future projects.

Previously, gap reports had been prepared manually once a month and lacked detail. Not only did the SAP application drastically reduce the amount of manual work required to produce the reports, it provided different reporting hierarchies, which allowed for quick, detailed analysis by branch, product, and line of business. ALM functionality enables the following reports:

- **Interest rate sensitivity report** – Before the SAP software was implemented, the bank was unable to prepare interest rate gap analysis reports because it lacked software support as well as source data. With the SAP software, ALM interest rate gap analysis reports are generated. This improves timeliness and transparency of the data and provides reliable information for decision making.
- **Liquidity gap analysis report** – Monthly liquidity gap analysis reports suffered from poor data quality and cumbersome manual processing. With the SAP software, gap reports are generated automatically (manual effort is reduced from four to five days to one to two days) and with greater accuracy and more detailed information.

### ROI Analysis

The ROI analysis was based on interviews of process owners and end users from each of CEB's functional areas whose work was in some way affected by the SAP solutions. Employees in finance and planning, trading accounting, ALM, and human resources were involved. The following information was obtained from those interviews:

- Phase 1 of the SAP project at CEB yielded a positive seven-year net present value of CNY 37.56 million (€3.65 million), with a static payback period of 3.72 years and an internal rate of return of 39.2%.
- Improved efficiency and reduced headcount due to centralizing operations and standardizing and automating processes yielded an annual overall savings after the SAP software implementation of CNY 15.57 million (€1.55 million).
- Increased efficiency and automation resulting from the SAP software implementation reduced by 24,000 the number of employee-days required to perform the same amount of work, yet produced results of higher quality.

Estimated ROI over a 7-year period from implementing the SAP® software is 163%.

### Financial Accounting

SAP software has given CEB an integrated IT landscape that supports standardized, automated business processes. This has streamlined communication between departments and branches, reduced the number of manual tasks, and provided a basis for centralizing operations. The total reduction of headcount for accounting functions at CEB is 106.4 full-time employees. The company estimates that 75% of the headcount reduction is directly attributable to the SAP software.

Annual savings for financial accounting after implementing the SAP® solutions is €1.29 million.

### Reporting

The SAP software automatically compiles CEB's regulatory reports. Local report analysts need only review the data in the reports and download them. Since the Excel-based user interface in SAP NetWeaver BI is easy to use and the data it provides is accurate, CEB business executives now do more analysis on their own.

The SAP software has reduced manual revisions of data from between 20% to 30% down to 5%. Time spent each year on both internal reporting and regulatory reporting has been reduced by 50%.

Annual savings for reporting after implementing the SAP® solutions is €165,000.

### Trading Processing

The SAP software facilitated trading back-office operations by standardizing and automating the process. This has greatly reduced manual tasks and errors. Before the SAP software was introduced, five employees performed most of the transaction volume. With the SAP solutions, it was possible for CEB to reduce the amount of time involved in account adjustment from a half day to just a few minutes. Headcount could be reduced by 2.3 full-time employees.

Annual savings for trading back-office processing after implementing the SAP® solutions is €37,000.

### HR Payroll

Because of the SAP IT infrastructure, HR payroll is centralized at the branch level, which freed up subbranch HR personnel from having to perform the work. The SAP software automated the payroll posting process, which drastically reduces manual tasks for HR reporting. Before the SAP software was introduced, one full-time employee required three to four days to generate monthly payroll statistic reports. Now one employee spends a half day to create the monthly reports.

Annual savings for HR payroll after implementing the SAP® solutions is €55,820.

## **NEXT STEPS**

CEB has established a productive relationship with SAP and is interested in making further investments in SAP software.

CEB has completed the third phase of its implementation with the SAP Travel Management application and workflow and portal functionality from SAP to enhance its self-service travel and expense management processes. A pilot program based on SAP software implementing these functions is now operating in three CEB branches.

CEB has plans to implement business planning and budgeting functionality from the SAP for Banking solution portfolio and will extend its use of the SAP ERP Human Capital Management solution to handle personnel administration, time management, and employee and manager self-service.

## LESSONS LEARNED

**CEB is one of the first banks in China to introduce such a large, complex IT implementation project that incorporates so many banking solutions. The company's key managers and users determined the factors that made the project successful, which include the following:**

- In addition to basing the implementation on industry-leading software solutions from SAP, essential factors for the success of the project were the close cooperation between SAP and CEB, consulting services support from Accenture, and technical support from Lenovo.
- It was critical to the project's success to ensure that CEB's business processes were integrated across the different SAP solutions during the design and implementation phases of the project.
- Adopting best practices supported by SAP greatly enhanced the effectiveness of the software.
- The project was completed on time and within budget largely because of the collaborative efforts of SAP and CEB to control costs.
- The total commitment to the project by China Everbright Bank included sponsorship and guidance by senior management and close collaboration between the company's IT and business groups

**“The senior management and other executives at CEB are very satisfied with the SAP management accounting project. Overall, business requirements specified during the selection phase for the software have all been realized. Some of the key success factors that made the project so successful are the support and special attention from CEB's senior management and seamless team cooperation between SAP and the other parties in the implementation.”**

Li Jian, General Manager, IT Department, Coprogram Manager, China Everbright Bank



# APPENDIX

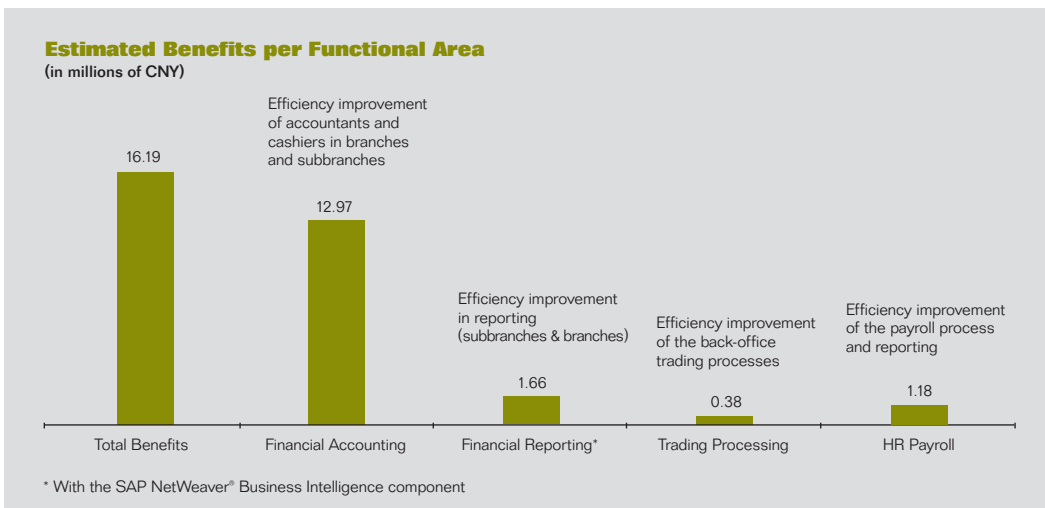


Figure 2: Benefits Breakdown (Phase 1)

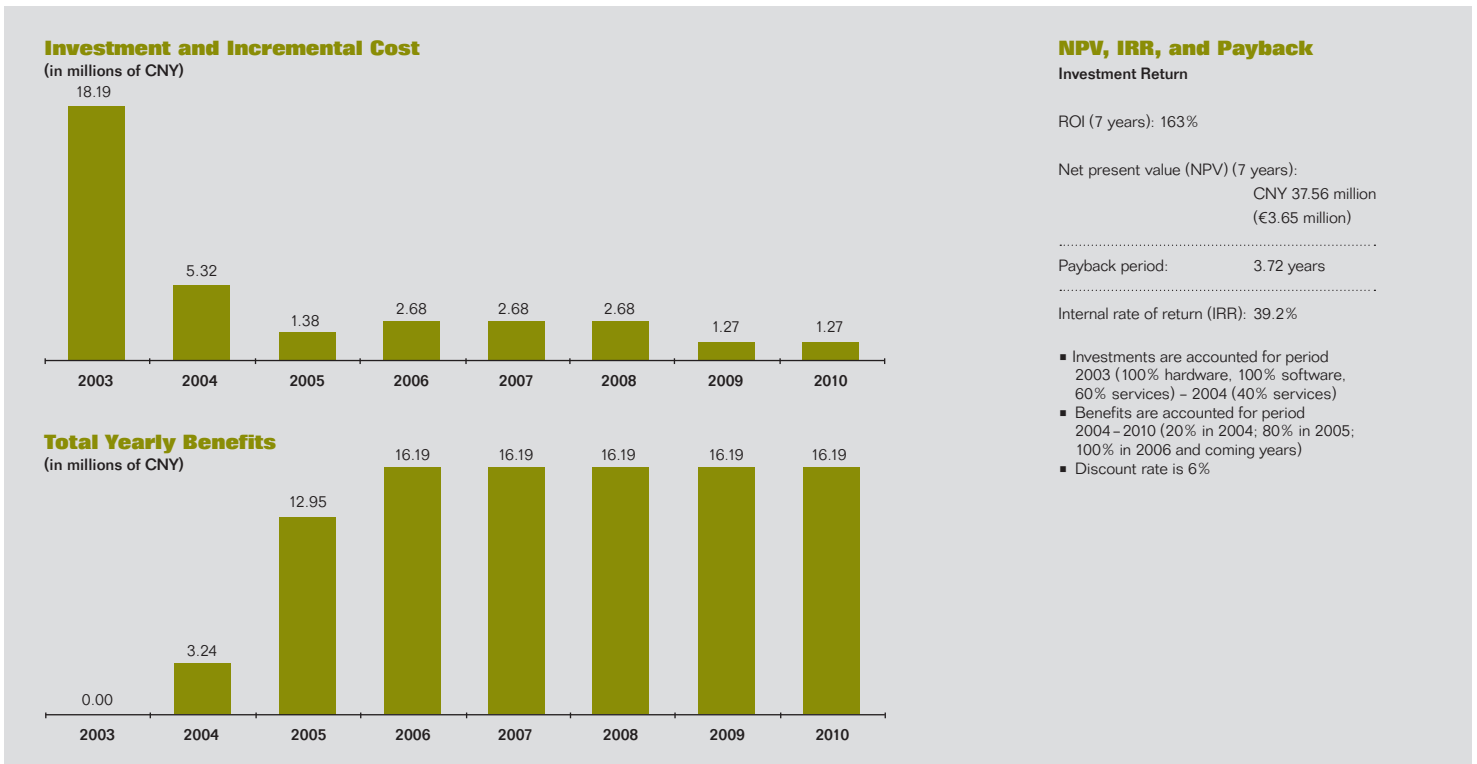


Figure 3: ROI (Phase 1)

Driver	Assumption
Discount Rate	6%
Time Horizon	7 years
Hardware Investment	100% in 2003
Software Investment	100% in 2003
Software Maintenance Cost	17%
Services Investment	60% 2003 and 40% 2004
Services Running Costs	External cost (Accenture): 8% in 2005; 100% in 2006; 100% in 2007; 100% in 2008
	Internal costs: 100% since 2004
Benefit Allocation	20% in 2004, 80% in 2005, and 100% in 2006
	25% of the financial accounting processes improvement was an organizational benefit (shared services)
Monthly Average Cost per Employee	CNY 650
Working Days per Year	250
Working Days per Month	22
Working Hours per Day	8

Figure 4: Assumptions

[www.sap.com/contactsap](http://www.sap.com/contactsap)



50 083 830 (07/03)

© 2007 by SAP AG. All rights reserved. SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver, Duet, PartnerEdge, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world. All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.