

*This case was prepared by Mr James C. Y. Lee of Alcatel Group and Dr R. S. M. Lau of the Hong Kong University of Science and Technology as a basis for classroom discussion rather than to illustrate effective or ineffective handling of an administration or business situation.*

*Please address all correspondence to: Dr R. S. M. Lau, Department of Information and Systems Management, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong. E-mail: rlau@ust.hk.*

## ERP Implementation Project at TS Group

### INTRODUCTION

William Fung, chief financial officer of TS Group (TSG), gazed at Motorola's regional headquarters from the top floor of TSG's corporate office while contemplating the group's future financial and information strategy. The question of how to turnaround TSG loomed large in his mind. Last year was apparently a turnaround year for TSG. After posting significant losses (i.e., losses after tax) in the previous few years, TSG became profitable again. However, this was achieved by a series of restructuring and disinvestment actions. It was important whether the profit could be sustained in future. In particular, TSG faced mounting pressure from its competitors as its market share for leading products shrank. Therefore, to turnaround and upgrade the group to the standard of a world class company like Motorola was necessary to stay competitive in an ever changing business environment.

Although TSG was in an entirely different industry, William was impressed by the "one day closing"<sup>1</sup> successfully implemented by Motorola. In order to accomplish the same, the management had recently signed an agreement with a consulting company to provide the group with technical support to install an Enterprise Resource Planning (ERP)

---

<sup>1</sup>One day closing means a company can close its monthly consolidated account by one day. In the case of Motorola it can close its global consolidated account by one day.

system. J.D. Edwards (JDE), one of the major ERP software vendors, was selected. This system would replace the current systems that could not support the group's expansion in recent years. Apart from being a major information infrastructure investment to the group, it also presented a great challenge to William. As far as he knew, many companies could not successfully implement an ERP system after spending millions of dollars on the implementation projects.

### **COMPANY BACKGROUND AND MARKET ENVIRONMENT**

TSG was founded in Indonesia in the 1930s. It first began trading in edible oils, rice, and copra. As the group continued to develop and expand, TSG started its oil and fat processing business in Singapore and Malaysia in the late 1940s. In 1963, TSG began operating in Hong Kong, and was a leading entity in the field market. Not only was TSG the major player in edible oils and home care products in Hong Kong, it also owned the largest foreign-owned flour processing enterprise in China. It was also the largest can maker in Taiwan and was one of the largest independent Easy Open Ends makers in China.

Senior executives presented a business case to the company's board of directors linking the ERP implementation with key business objectives. In particular, an implementation of ERP would replace the existing disparate information systems and achieve the following business benefits:

- Enabling the company to quickly produce the group financial statements that used to take more than a month to produce;
  - Allowing sharing of data among different application areas, which is impossible in the past because of the incompatibility of different systems used in different subsidiary companies;
  - Supporting decision making in a competitive market with more accurate and timely information.
-

A major milestone to this success came in 1971, when TS (HK) Limited was listed on the Hong Kong Stock Exchange. In 1990, TS Food Limited, one of the subsidiaries of the TSG, was also listed on the Hong Kong Stock Exchange. The success continued in 1992 when TS Packaging was listed on the Hong Kong Stock Exchange.

TSG's reputation in Hong Kong had been firmly established for over 40 years. Its oil product brands such as Nice, Golden Fish, Very Good and Beauty detergent products have become popular household names in Hong Kong. These achievements were also extended to China. TSG's Golden Fish Brand was already well known throughout millions of homes and the Beauty line of liquid detergents, powder detergents and other cleansers have successfully penetrated the China market.

In addition to its operations in Hong Kong, TSG set up flour mills, oil plants, refineries and factories at prime locations in China, ensuring efficient delivery of oil and flour products to all parts of the country. Sales offices also span the major cities in the country, covering Beijing and Shanghai, China's commercial and finance centers, and extending to Wuhan, Chengdu, Nanjing, Shenzhen, and Shantou. This extensive distribution network not only allows TSG to achieve high efficiency, but it also provides reliable service and high quality products to customers.

### **Challenges in Recent Years**

1997 was the first year in the group's corporate history to incur a significant loss of HK\$63m attributable to shareholders. The major contribution of the loss stemmed from the significant write-off of investment in Nanjing through the cessation of software and fast food restaurant businesses in China. In 1998, a lot of streamlining and restructuring programs were put in place in an attempt to improve the situation. However, 1998 proved to be another difficult year for TSG. Despite the fact that turnover was up 20% to over HK\$4 billion, TSG suffered a loss of about HK\$82 million. Sharply lower trading margins for its core

---

businesses and heavy debt servicing were the main factors leading to the loss. Such low margins were due to keen competition and price war in China, coupled with high material costs. TSG redoubled its efforts to increase sales of high priced consumer packs in major cities in combination with cost reduction programs.

The business environment has been extremely difficult for years after the 1998 Asian Financial Crisis and TSG has initiated many bold measures in an attempt to turn around its financial performance.

- Disposal of unprofitable or unproductive businesses. For example, TSG sold its entire interest in TS Packaging for over HK\$500 million, keeping only some packaging facilities at its Taiwan and Zhuhai plants.
- Strengthening the financial position. For example, TSG made a rights issue to increase shareholders' equity at the company by approximately HK\$660 million.
- Top management reshuffle. New CEO and CFO were appointed to replace the existing top management, along with some changes in divisional management. The new structure is depicted in Exhibit 1.

Through the above actions and gradually improved business environment, TSG reported an operating profit attributable to shareholders of HK\$90 million in the following year. Included in the profit was an exceptional profit of HK\$200 million from the disposal of TSG Packaging Limited. To sustain its business in increasingly competitive consumer markets, TSG must develop and execute new business strategies that are based on accurate and timely information. A major change in the corporate information infrastructure was then in order.

### **Information Technology Environment**

Ben Tang has just joined TSG as the group's new MIS manager. His appointment marked a new phase in the development of TSG's MIS system. His main duty initially was to install a new integrated system to replace the

---

existing disparate systems owned by each division. These computer systems were not compatible and communicative with each other. Some systems were tailor-made by one of the previous TSG's subsidiaries, which had been a software company. This in-house software company was run by a former MIS manager who had left the company with the whole team before Ben's arrival. As a result, no one in the group had any technical knowledge and skills to maintain or update the existing systems.

After a preliminary assessment of the current information systems used in different parts of TSG, William concluded that the systems did not provide the degree of redundancy, reliability, and maintainability the business required. In particular, it was difficult to make changes to the systems to meet their business needs anymore. Accordingly, the only solution was to dismantle the current systems and to build a new integrated system across all divisions. With the existing information systems in different divisions, transmitting data among these disparate systems often needed expensive interfaces, and most of the time, organizational members wasted time and effort in duplication of data entry. Indeed the company took more than a month to produce its monthly consolidated accounts, let alone its other management accounts and financial analyses.

In addition, as the group grew and expanded, the fragmented IT infrastructure involving numerous systems would be the hurdles for developing competitive advantage. To William, speedy decision making capability was one of the competitive advantages the group should pursue, particularly during the period of price war and transformation.

### **PROPOSING A NEW INTEGRATED SYSTEM**

An integrated system means that a single software system is in place to enable an organization to integrate and transmit information across different divisions. In other words, it helps an organization achieve "end-to-end connectivity" by

---

making the various application systems compatible with one another. An Enterprise Resource Planning (ERP) system is an integrated and enterprisewide management system made possible by recent advancements in information technology. Major tier-one ERP system vendors include SAP, Oracle, Peoplesoft, JDE and so forth.

In order to select a suitable ERP system, a selection committee was formed in TSG with members from top management including an executive director appointed from the board, CEO, CFO, corporate financial controller, divisional general managers, regional financial controllers, and MIS manager. A list of selected prospective vendors and a set of Request for Proposal (RFP) criteria were discussed and determined in the first few meetings. The criteria were allocated with score and weighting to evaluate the proposals submitted by the vendors and consultants. Eventually, JDE and a consulting firm specialized in JDE applications were selected. The committee submitted a rough implementation timetable, budget, and reasons for selecting JDE to the board for final approval.

### **JDE Kick Off**

With the approved board papers, William urged Ben to form an ERP implementation team to kick off the project with the implementation of the financial and accounting applications. William wished to develop internal competence of the new system and therefore instructed Ben not to be over-reliant on the consulting firm for solving all technical issues. This required Ben to have a balanced view between the project progress and the development of internal competence. If the technical matters adversely affected the progress, consultants would be called in to solve them immediately.

As Ben himself did not have any ERP system implementation experience, he would like to recruit new staff with ERP experience. However, after posting the advertisement on newspapers and passing on the relevant information to employment agencies, suitable ERP specialists were not found for almost two months after the ERP

---

implementation team was formed. The team comprised of a corporate financial controller, a few corporate accountants, and the MIS team. The inclusion of corporate financial controller and accountants was to give advice to MIS people who had only limited experience in dealing with finance and accounting matters.

William has instructed the implementation team to perform a business process reengineering (BPR) with some forms of business analyses as he believe that most successful ERP implementation should involve some degree of process change before implementing the system. Such an understanding of the existing processes enables the company to redesign their organizational processes in order to get the most out of the ERP implementation. Unless the various business processes are redesigned to suit the design of the modules of ERP, the system implementation might not generate the expected success. ERP is not just office automation software that can be bought off the shelf and installed but rather it represents a business transformation process, requiring some fundamental changes in the way various business processes are designed and conducted. In addition, the team members at TSG needed to have a good understanding of how the systems worked before actually putting the systems into use and meeting the end users' needs.

### **Sponsorship from Top Management**

Having set up the ERP implementation team, William also created a Steering Committee in which the CEO, all divisional general managers, and Ben were members in order to provide high level sponsorship for the project (Exhibit 2 shows the implementation project structure in TSG). This could signal the importance of the project to the rest of the company. Also, the top management could monitor the progress of the project and provide any resources that the project might need.

In the first Steering Committee, a more detailed and workable implementation timetable was created

---

and presented by Ben. During the meeting, Ben got the impression that top management appeared to underestimate the complexity of the implementation of ERP system. A lot of time was spent in arguing and justifying the time required for each module. Also, it was vehemently discussed as to why a big bang approach was not adopted. A big bang approach involves implementing all modules of the ERP system at once. However, in view of high risk of failure in ERP implementation, Ben wished to adopt a more conservative phase approach (or so-called piecemeal approach) to implement the modules one by one, beginning with the financial and accounting modules.

As TSG was a listed company, it had the responsibility to report to the Hong Kong Stock Exchange and the public at large about the progress of its IT project. If the big bang approach was adopted, any problem found in one module might affect the progress of the whole implementation. The problem might be due to some global variables or even numerous variables in different modules. It would take time to find out which variables went wrong when all systems were turned on simultaneously. This might result in a complete halt of the whole system implementation. Under these circumstances, users' confidence would decline and resistance to changes would increase. It would also affect the company's reputation if the failure was made known to the Hong Kong Stock Exchange and the public at large. Under the worst case scenario, the Hong Kong Stock Exchange might announce that the group may fail to produce reliable financial statements on time. If that happened, it would have a catastrophic effect on TSG's stock price.

Having discussed with management the pros and cons of each implementation strategy, finally with the support from William, Ben got his timetable along with a budget of HK\$8 million approved by the Committee but with some amendments of the timetable. The budget not only comprised implementation costs but also internal costs incurred during the implementation period:

- Software licenses, based on the number of application modules purchased and the number of full (concurrent) and casual (named) users;
-



- New hardware, including workstations, servers, printers, and networks;
- Consultant's fees;
- Internal costs, including training, overtime pay, and temporary workers during the data conversion phase of the implementation project.

### IMPLEMENTING THE ERP SYSTEM

As indicated in the timetable, the implementation would start with the general ledger module. Sales order processing module and accounts receivable module would be the second phase, followed by accounts payable module and inventory module. Production and MRP would be the final phase (see Exhibit 3 for a typical ERP structure). However, the next question to the team was at which location the implementation should be commenced first since TSG's businesses spread across China, Taiwan, and Hong Kong. Ben did not want all locations to have their ERP systems implemented at the same time. As the first module was the general ledger, this involved a lot of changes in the group's chart of accounts. Indeed, William expected a complete change of it so as to pave a path to his vision for one day closing and to provide strategic financial analysis of business performance. To have a detailed financial analysis, the chart of accounts should be broken down into different layers and rebuilt them by the ERP system into different financial reports for different users (see Exhibit 4 for a graphical illustration). In other words, once the data is entered by any accounts clerk, the system would produce all the different financial reports in a short period of time.

In view of these changes, Ben commenced the implementation in Hong Kong, as most of the team members were based there. In addition, the implementation involved a lot of financial skills that the Hong Kong corporate office had as its core competence. William thought that by embarking on a project of HK\$8 million, which constituted the single largest capital project ever approved by the new management, the corporate office should take the lead to

---

make changes. With the success in ERP implementation in the corporate office, it could be easily rolled out to the divisional level. As far as Ben knew, in the past MIS had a record of failing<sup>2</sup> twice in implementing new IT systems. This explained why different stages of implementation in different divisions were necessary. In fact, William intended to standardize the business processes of TSG, thus helping to produce financial analyses that could be comparable among different divisions. Standardization means a unified chart of accounts, same accounting treatment for a similar item among different divisions and same business process. In short, the corporate office during the ERP implementation would set a standard chart of accounts in which all items would have unified definition and the same standard operating procedures for all divisions to follow.

Ben adopted an implementation strategy called “rapid iterative prototyping”. This involved breaking the implementation into a series of phases called “Conference Room Pilots” (CRP). The purpose of each CRP was to build on previous work to develop a deeper understanding of the software and how it functioned within the business environment. That is, the project team had an opportunity to verify the flow of information in the system. This could help the team to redesign and reconfigure functions that operated incorrectly, to manage problems that arose during the testing, and to resolve those problems and test them repeatedly until the system was completely validated.

Before the beginning of CRP, a series of training programs were organized to make the team familiar with the functionality of the software. At the same time, the team members held a series of meetings with top management with regard to their needs relating to the financial analyses they wished to see so as to help them to monitor their business performance. Having understood their needs, the accounting team was divided into two. One started to write

---

<sup>2</sup>As the corporate finance manager who had been involved in the previous IT implementations recalled, one of the major reasons for the failure was lack of support from senior management. Divisional top management thought any IT implementation was the work of the Corporate Office. This had nothing to do with them. In other words, all related resources should be provided by the Corporate Office.

---

the specifications of the financial analyses. Another led by the corporate financial controller, Andrew Tong, began to work with different department heads and divisional accountants to understand their processes. At the end of each day, the teams held a meeting to discuss the results and the MIS team then configured the JDE financial module. There were hundreds of parameters in these applications to be set up before turning on the system.

### **Implementation Obstacles**

As the implementation project progressed, the time for training and setting up of the system were significantly longer than expected. The project was three months behind the deadlines as originally indicated in the timetable. The reasons for the delay were:

- They had underestimated the time of training and setup of the system.
  - The divisional accountants and Andrew did not release themselves from their other projects and routine work. Often they found themselves too busy to attend the project meetings and interviews with users.
  - The team did not have anyone with the reengineering experience and business analyzing capability.
  - Most of the inputs and business processes and procedures provided to MIS for the sake of perimeter setup were the imitation of existing systems. There was no process change in the existing systems. This meant that if the MIS configured systems blindly in accordance with the input, the company did not leverage the benefit of the ERP. Fortunately most of the inputs and proposed procedures were re-discussed with Andrew and William who asked the team to re-perform their work and put forth a meaningful new system and process to suit the design of the ERP and fully leverage its functionality. This further delayed the progress of the project.
  - It seemed there was no sense of urgency among certain team members and senior executives. To most users and executives, the project was just the toy of MIS.
-

After an emergency meeting called for by William with the team members, the following actions were taken to overcome the above obstacles:

- As discussed with the consulting firm, each module's training was compressed from its normal, say 5 to 2 days.
- A project manager who had reengineering experience, hands-on IT knowledge, particularly system implementation experience and business analysis skills with the quality of a good politician should be employed.
- More accountants were employed on a contract basis to deal with the routine work left by the financial team.
- Various progress meetings were held by the project manager with users and team members so as to instill a sense of urgency among members of the team and the senior executives.
- All division heads were appointed as process owners. This means that they needed to take ownership of the process change. Also, the targets and milestones of the project were included as part of the criteria of their performance evaluation. That is, the project was no longer the toy of MIS. It was their project as well.

In the end, a project manager, Leon Lee, with "Big Four" accounting firm's training and reengineering experience, was employed to act as a bridge among the users, MIS and finance teams. The project progress was accelerated and the first CRP was held after one month of his employment. A complete guide of the chart of account was written by Leon to define each item of the chart of accounts after two months of his employment. Various training sessions were given to accounting teams in the corporate office regarding the data entry and the business analysis under the new system.

As expected, there was some user resistance and change in work culture as reported during the ERP implementation at TSG. In the Hong Kong office, the staff generally welcomed the installation of a new system to solve their problems. However, as a result of the change of management, they were skeptical about the actions

---

of the management. One of their concerns was whether management would cut the workforce through the installation of a new information system. Work culture had been changed with the new management who stressed result-oriented culture through the establishment of key performance index for each of the staff. All staff were required to meet various targets in order to get their year-end bonuses. One of their targets was to meet deadlines set by their supervisors. This resulted in the staff's inaction towards the ERP project.

In the China office, the staff was also concerned with meeting various deadlines. In addition, they were more doubtful about the success of the project because they had seen a few IT implementation projects which failed in the past. Local management there tend to think that generating more revenue was the most important thing to keep the new management happy. As a result, they showed strong indifference about the project.

Following the training and setup of the system, another major issue of concern in implementing ERP emerged, seriously affecting the progress. This was employee turnover. Since personnel with ERP experience was much sought after in the market, the team experienced high employee turnover throughout ERP implementation. In addition, the team usually worked long hours under great pressure to achieve the project milestones. As a result, many experienced MIS staff left the company during the implementation. At one point in time, rumor had it that the project manager would leave the company. To tackle the issue, William promptly met with the project manager and each team member. Apart from giving them encouragement and providing full support for their daily work, a project bonus was set up to reward the team at the end of each module achieved on or before the agreed milestone. In addition, more MIS staff were employed. Such actions did alleviate the problem but the employee turnover in the project team was still the highest in the company.

After numerous testing and validations from a series of CRPs, the general ledger module in the corporate office

---

was finally run<sup>3</sup> despite the fact that users complained that the chart of accounts were so complicated that they usually took more time than before to make entries into the systems. However, the timing of printing of the financial statements was shortened to a few days after the monthly closing. Management in the corporate office no longer need to wait almost a month to review the results of Hong Kong subsidiary companies.

### LOOKING AHEAD

Following the successful implementation (with some delays) of the general ledger module in Hong Kong and the installation of leased lines between Hong Kong and China offices, Ben and Leon now wasted no time in implementing the general ledger, sales order processing, accounts receivable, and inventory modules in the subsidiary companies in China. Additionally, they wished to build an e-commerce platform in China to engage in e-commerce business. Installing an accounting system in China involved finding ways to solve the problems of meeting the Chinese accounting regulation requirements. However, they still tried to avoid any modification of the ERP software. As a result, they rather found other ways to circumvent the systems instead of modifying them. As usual, technicality was not so much the major issues as the people, users and coordination.

Given the experience gained from the implementation of the general ledger module in Hong Kong, the team was more confident in managing different issues that might arise. However, the situation might be more complicated than they anticipated since they implemented not only the general ledger module but also the sales order processing and accounts receivable modules in the China subsidiary companies in order to leverage the leased lines just installed and linked from the China offices to the corporate office. All

---

<sup>3</sup>This included two week parallel run.

---

of these offices in the past had been run by several powerful people in the group.

William recalled that when he first took over his current job in the group, he had revised certain financial policies and forwarded them to the China offices for implementation. To his surprise, no action had been taken for a few months. After some investigations, he found that the policies had been intercepted by the general managers and division heads. When asked why, they replied that these policies were inappropriate for their offices and employees, and were hard to translate into actions. He summoned them to his offices and explained that they did not have their own offices and employees. All offices and employees belonged to TSG and should be required to adhere to group policies.

Ben felt the same and would expect strong resistance from the China offices. In fact, during the recent kick-off meeting, he was questioned by managers at the China offices for introducing the ERP system in their offices. These managers contended that their IT systems were adequate in supporting their business and they did not understand why the group invested so much money to install an ERP system. Even if a new system were installed, they thought local ERP system such as Jinding or Yongyao should have been selected instead. A hectic debate broke out in the China offices about the competitive advantage the new system would bring into the group. Some said IT investment would not automatically create any competitive advantage and therefore the group should not invest in any ERP system for the China offices.

To William, speed was the most important competitive edge in the business world. With the new ERP system, he envisioned that the corporate executives would sit comfortably in their corporate offices reviewing the most updated sales performance while advising and urging sales managers to take appropriate actions right away. The implementation of the ERP system was an essential step in keeping the company competitive in the future. Extending the ERP system into e-commerce platform and streamlining its supply chain system will be the next big thing for the company in a couple of years. All of these would

---

definitely create the competitive advantage that the group desperately needs to sustain its performance. Built on the implementation success in the Hong Kong office, William is now confident that the next implementation project in the China office will be done better than ever.

---



Exhibit 1. TSG's Organizational Structure

# TS Group

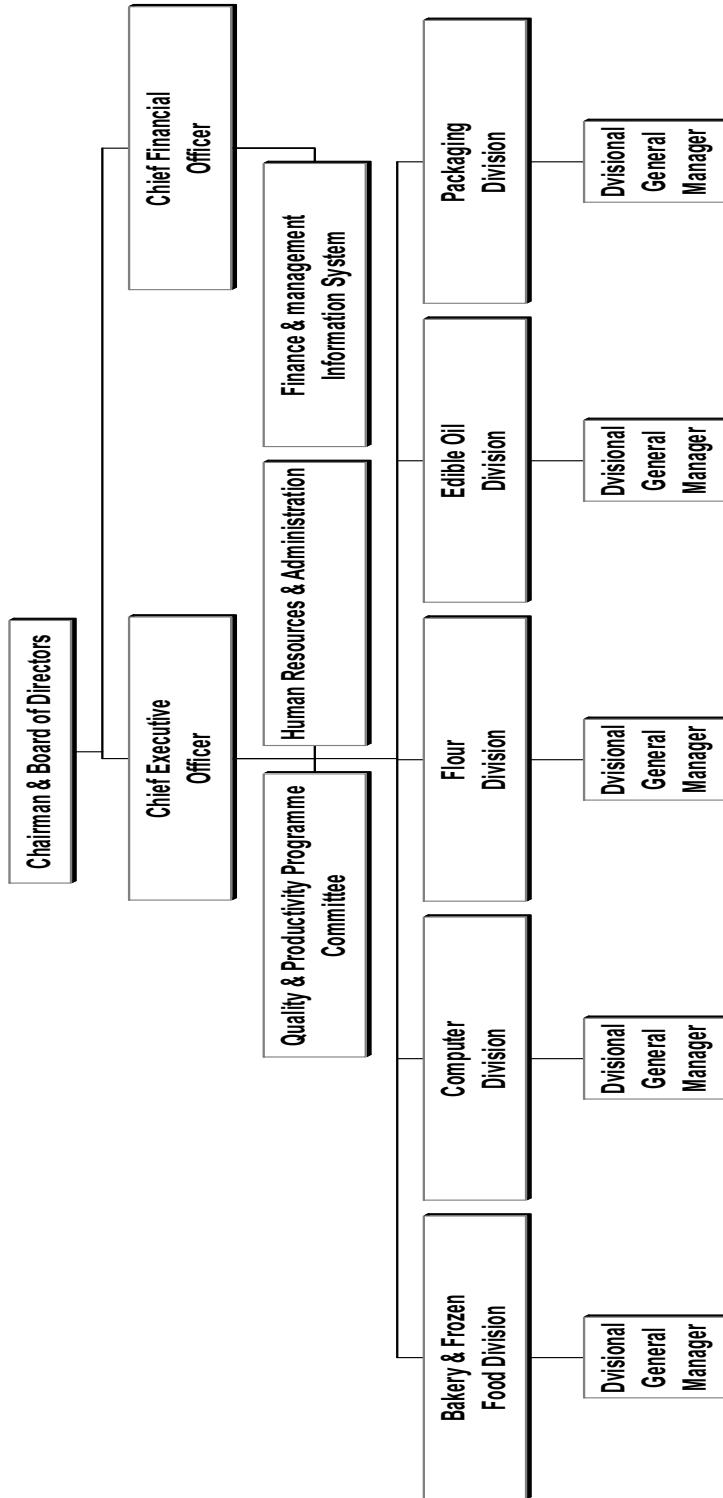


Exhibit 2. ERP Implementation Team Structure

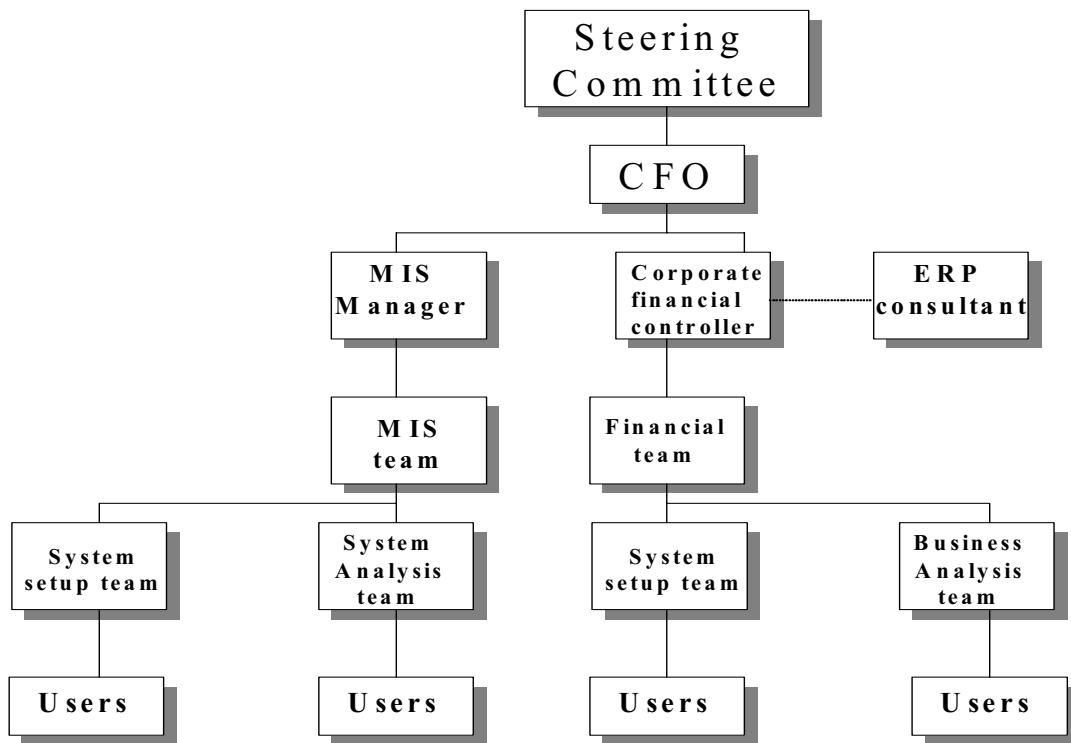


Exhibit 3. Enterprise System Structure

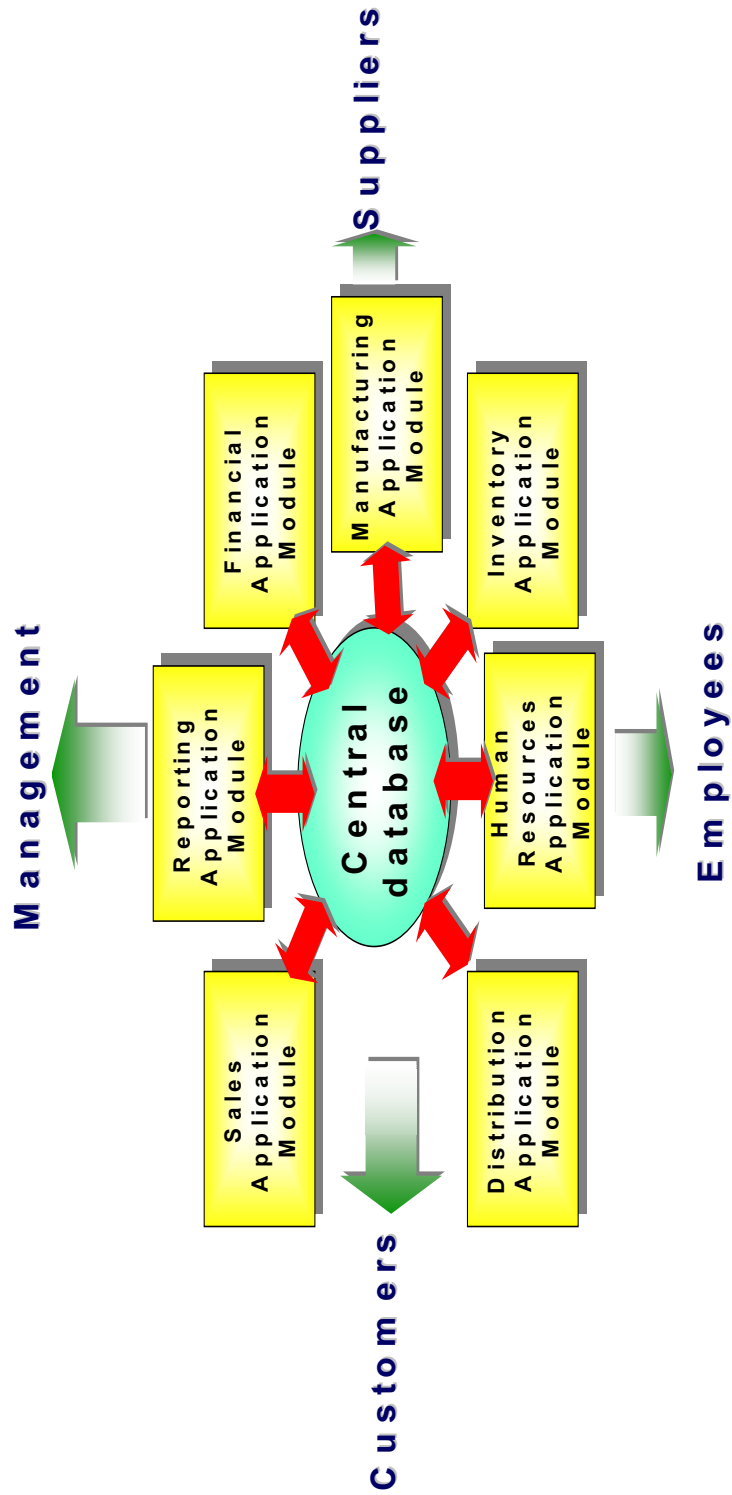
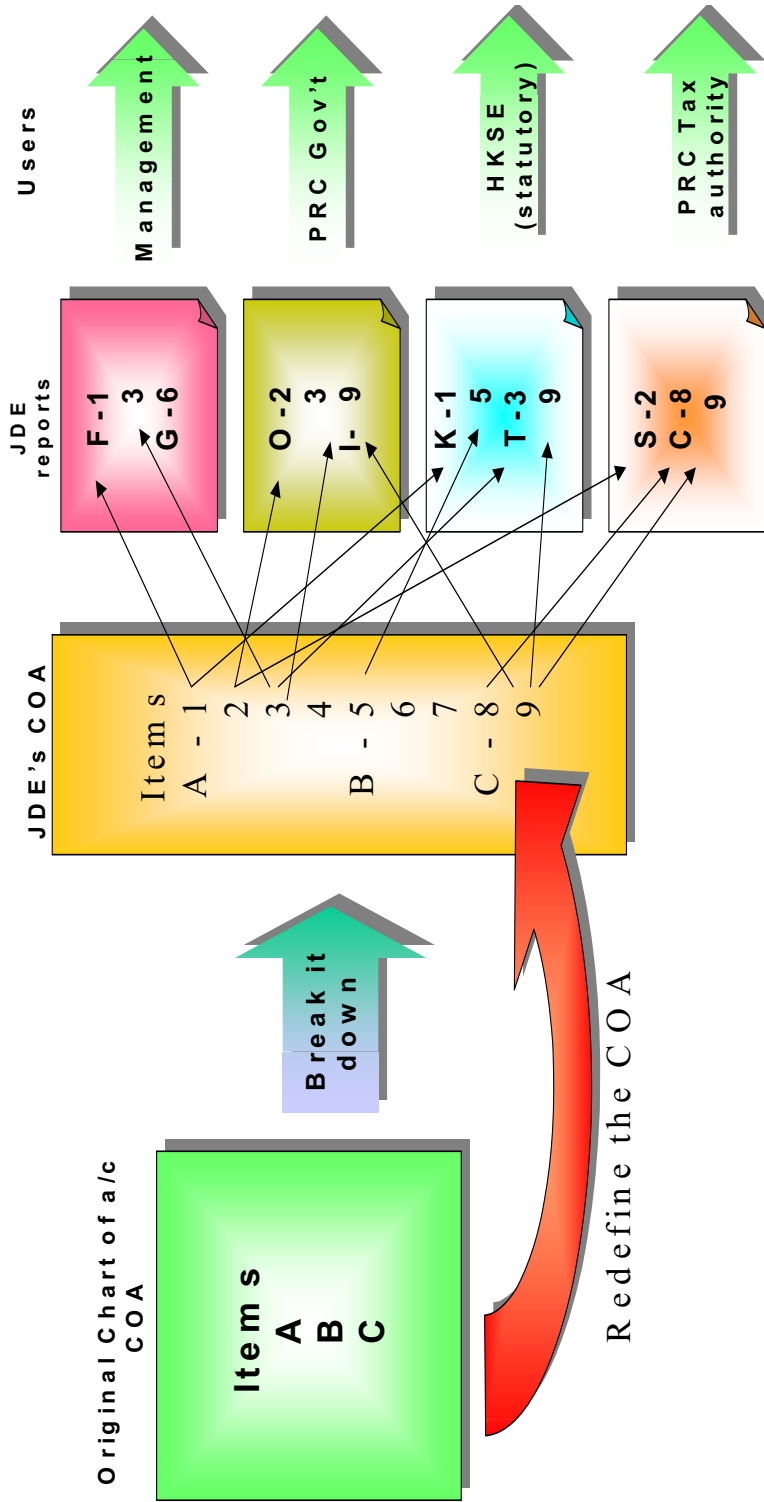


Exhibit 4. Redefine Chart of Accounts to Meet Different Users' Needs



Copyright of *Asian Case Research Journal* is the property of World Scientific Publishing Company and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.