Tutorial 3
Enterprise Systems Architecture
Navigating SAP S/4HANA

Objectives:

- **Understand the effects of a well-designed architecture on ERP implementation.**
- **Learn about service-oriented architecture and its impact on ERP systems.**
- **To acquire practical skills and competencies by navigating through the SAP user interface.**

CASE 3-1
Opening Case
Nestlé'S ERP Implementation

Source: Adapted from Worthen, B. (2002). Nestlé's ERP Odyssey. *CIO Magazine*. May 15; Aberdeen Group. (November 2005). Center-Led Procurement Organizing Resources and Technology for Sustained Supply Value; Weiss, T. (2002). Nestlé Shifts from HP to IBM in Data Center Pact. *Computerworld*, March 11.

Since market leader SAP introduced R3, the first ERP system with client–server architecture in 1992, thousands of companies worldwide have implemented this software. Many have been successful, but none has been without problems. Nestlé USA was one of them. Nestlé USA has seven business divisions: beverage, confections and snacks, food services, foreign trade, nutrition, prepared foods, and sales. Some of the popular brands sold in the United States by Nestlé are Alpo, Baby Ruth, Carnation Instant Breakfast, Coffee-Mate, Nescafé, Nestlé Carnation Baby Formulas, Nestlé Toll House, PowerBar, Stouffer's Lean Cuisine, SweeTarts, and Taster's Choice. Its annual revenue is around $8.1 billion with 16,000 employees.

The ERP implementation at Nestlé, code-named BEST (Business Excellence through Systems Technology), had an estimated cost of $210 million with an IT staff (including outside consultants) of 250, began in 1997, and was due to be completed in 2003. The project's main goal was to use common business processes, systems, and organizational structures across the autonomous divisions within the United States. These common systems across Nestlé USA would create savings through group buying power and facilitate data sharing between the subsidiaries.

Jeri Dunn, CIO of Nestlé USA, joined with executives in charge of finance, supply chain, distribution, and purchasing to form a key stakeholder's team for implementing the SAP. The stakeholder team made it clear to the top management that the SAP implementation would require business process reorganization and couldn't be done without changing the way Nestlé USA did business.

The stakeholder team, however, did not include any members from the groups that would be directly affected by the new business process. This caused a rebellion in the ranks and the employees resisted. Nobody wanted to learn the new way of doing things. Divisional executives were confused and angry. Morale sank and employee turnover reached 77 percent. Help desk calls reached 300 per day. The project team had overlooked the integration points between modules to account for the Y2K deadline. By the beginning of 2000, the rollout had collapsed into chaos and the project was halted. In its haste to unify the company's separate brands, the project team had essentially replaced divisional silos with process silos.

The company reconvened the stakeholder team and started the SAP implementation process from scratch. The group members eventually decided that to finish the project, they would need to start with the business requirements and then reach an end date, rather than trying to fit the project into a mold shaped by the predetermined end dates. They also made sure that they had support from the key divisional heads and that all the employees knew exactly what changes were taking place.

With SAP in place, Nestlé USA has already achieved a significant return on investment (ROI). The common databases and business processes led to more trustworthy demand forecasts for the various Nestlé products. This also allowed the company to reduce inventory and

redistribution expenses. In 2003, Nestlé signed a $500 million, five-year deal with IBM for server hardware, software, and IT services, and integration of its mySAP.com e-Business software system, giving its workers access to mySAP.com via an internal portal customized for their individual jobs. Nestlé is attempting to solve the information management and systems challenge by standardizing on a common ERP system globally. As part of this initiative, they are rolling out a common e-procurement solution across its major regions and markets. Adoption of the solution, which is being licensed from SAP, has been accelerated by Nestlé's e-procurement rollout that does not conflict with its global ERP and data center consolidation efforts. (Nestlé will begin transitioning e-procurement system management to its own data centers in 2007–2008.) This approach also allows Nestlé to handle implementation and change management issues during the initial rollout, enabling simplified system setup and configuration when e-procurement system management moves in-house.

Case Study: (~35 mins)

Based on the Nestlé case:

1. Discuss the objective of ERP implementation at Nestlé USA. Did they achieve these objectives?

   The project's initial objective or main aim was to use common business processes or standardise, systems and organisational structures across the autonomous divisions within the USA. These common systems across Nestle USA would create savings through group buying power and facilitate data sharing between the subsidiaries.

   Nestle achieved its goals, after regrouping and starting again from scratch, with SAP in place, Nestle USA achieved significant ROI. The common databases and business processes lead to more trustworthy demand forecasts for the various Nestle products. This also allowed the company to reduce inventory and reduce the redistribution expenses.

2. What problems were faced by Jeri Dunn, CIO, and what do you think would be the right systems architecture for Nestlé?

   Dunn was faced with having to change the way Nestle USA did business and facing employee resistance to the new business process he tried to push through. He assembled a team of stakeholders that did not have a stake in the new processes. He had a lack of communications with employees about future changes and was thinking too much about the system architecture and not so much about the implementation across the board.

   For Dunn, a Web-based architecture system would likely be most appropriate. His company is big, to say the least, has thousands of employees and is spread many miles apart. His company has many different products, and many different subsidiaries or corporate partners. Dunn needs something that is easy to integrate with existing internal systems and external trading partners. In other words Dunn needs an Internet platform which can provide a wide range of end users with access to ERP applications over many different locations through the net. Because his employees initially resisted the change, he should also look to make the integration easy to learn and adjust too, and most people are comfortable with Web based platforms.

   Dunn's main problem was trying to integrate "seven separate companies" onto one main system. Since the products that Nestle sells are not related, it was extremely hard to get everything in sync. It is said that Dunn knew the technology very well and her main goal was to have data sharing to enable group buying in return reducing costs.

3. Discuss the benefits and limitations of ERP implementation at Nestlé USA.

The benefits at Nestlé and many other organizations are as follows:

- Integration of customers, suppliers, and partners;
- Improvement of customer and business partner satisfaction;
- Establishment of a Global Asset Recovery Services brand;
- Reduction of administrative costs;
- Raised productivity;
- Lowered IT operations and systems maintenance costs; and Enhanced security and business controls.

Nestlé's new system integrated the extended enterprise and linked all offices in all locations. It transformed a geographically dispersed organization with independent systems into one virtual company capable of competing in an e-business environment through the next decade and beyond.

System Limitations

- The data conversion and transformation from the old to new system was an extremely tedious and complex process.
- Consolidation of IT hardware, software and people resources was cumbersome and difficult to attain.
- Retraining of IT staff and personnel to the new ERP system caused resistance and reduced productivity over a period of time.
- Complexity of installing, configuring and maintaining the system increased thereby requiring specialized IT staff, hardware, network, and software resources.

Business Limitations

- The change of business roles and department boundaries created upheaval and resistance to the new system.
- Retraining of all employees with the new system became costly and time consuming.
- Nestlé incurred high initial costs of purchasing software, consultant costs and disrupting the work flow of its employees