

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306
OST GRADUATE DIPLOMA IN MANAGEMENT (2024-25)
MID TERM EXAMINATION (TERM-II)

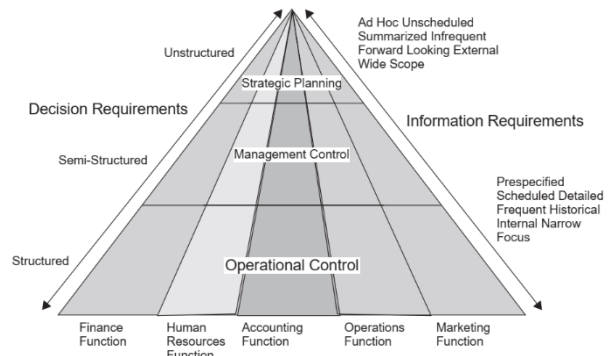
Subject Name: **Information Systems for Business (ISB)**
 Subject Code: **PG27**

Time: **01:00 Hrs**
 Max Marks: **20**

Note: Read the Case Study carefully and answer the questions given at the end.

Business organizations have become very complex. This is due to an increased layer of management hierarchy and an increased level of coordination across departments. Each staff role and management layer has different information needs and requirements. As such, no single information system can support all the business needs. Figure 1 shows the typical levels of management and corresponding information needs. Management is generally categorized into three levels: strategic, middle or mid-management, and operational. At the strategic level, functions are highly unstructured and resources are undefined, whereas functions are highly structured and resources are predefined at the operational level. The mid-management level is somewhere in between depending on the hierarchy and organizational size.

The quantitative requirements are much less at the strategic level than they are at the operational level; however, the quality of information needed at the top requires sophisticated processing and presentation. The pyramid should assess and display the performance of the entire organization. For example, the CEO of a company may need a report that quickly states how a particular product is performing in the market vis-à-vis other company products over a period of time and in different geographical regions. The pyramid therefore suggests that managers at the higher level require a smaller quantity of information, but that it is a very high quality of information. On the other hand, the operational-level manager requires more detailed information and does not require a high level of analysis or aggregation as do their strategic counterparts. Today’s enterprise systems are designed to serve these varied organizational requirements.



Enterprise systems, therefore, are a crucial component of any successful organization today. They are an integral part of the organization and provide computer automation support for most business functions such as accounting, finance, marketing, customer service, human resource management, operations, and more. In general, they play a critical role in both the primary and secondary activities of the organization’s value chain.

The goal of ERP system is to integrate departments and functions across an organization onto a single infrastructure that serves the needs of each department. ERP system acts as a central repository eliminating data redundancy and adding flexibility. A few of the reasons companies choose to implement ERP systems is the need to “increase supply chain efficiency, increase customer access to products and services, reduce operating costs, respond more rapidly to a changing marketplace, and extract business intelligence from the data.”

Business Process and ERP

A crucial role of ERP in business, beside integration of functional applications and organization information, is to better position the organization to change its business processes. As defined, a business process is a series of tasks or activities grouped to achieve a business function or goal. For example, order processing may include such tasks as taking an order, checking inventory, and preparing invoices. Most organizations have a set of policies and procedures to guide their business process. The ERP software has hundreds of business processes built into the logic of the system. These processes may or may not agree with the organization’s current business processes.

An organization has two choices when implementing ERP: 1) change business processes to match the software’s functionality or 2) modify the ERP software. The consequences of selecting either option have a long-term impact on the organization in terms of its bottom line and the performance of its employees, customers, and other stakeholders

Vendors assert that they have embedded the “best practices or leading practices” of a business process in their software. It is therefore possible for organizations to maximize their benefits by taking advantage of these best practices. This occurs only when organizations do not make major modifications to their ERP software during implementation. In reality, there are other negative consequences for an organization when modifying the ERP system to match existing processes. For example, any future upgrades to the system once it has been modified become cumbersome and expensive due to the fact that the modified system logic needs to be updated separately on every new version of the software. Thus, every time an organization has to upgrade the ERP system, the IT staff will have to upgrade the application and upgrade the modifications. Modifications will have to be reengineered into the system when they are incompatible with the new version. On the other hand, if the organization decides to implement the ERP system “as-is” (aka. *vanilla implementation*), disruptions will occur with the functioning of the organization.

Employees, business partners, and clients will have to be retrained in the new business processes (in addition to the ERP system). This does generate resistance from the users, adding to the training expense for the

implementation. Thus, management must pay very close attention to the organizational consequences of modifying or not modifying the ERP software to match their organizations' business process. This is not an easy decision. A wrong decision can bring down the entire organization, whereas a right decision can reap enormous benefits.

Rolls Royce's ERP Implementation

Rolls Royce (RR) is a global company with several divisions in more than 14 countries. It operates in four global markets: civil aerospace, defense aerospace, marine, and energy. In 1996, Rolls Royce outsourced 90 percent of its IT functions to a contractor called Electronic Data Services (EDS), which meant that EDS was responsible for overseeing the existing IT structure as well as providing adequate IT solutions for the future prosperity of the company. RR used more than 1,500 legacy (mainframe) systems that were inaccurate, expensive to operate, and difficult to maintain.

A need for an enterprise resource planning (ERP) system was noted during the late 1990s at RR to handle the volume of data being produced and processed from the new acquisitions and overall growth experienced by the company. In 2001, RR decided that SAP/R3, an ERP platform consisting of 12 functional modules, would be implemented at its aerospace division. There were multitudes of challenges that RR had to overcome in order for a successful implementation to occur.

To conquer the challenges presented, RR had to have an excellent IT team in place with a viable implementation strategy. The ERP project consisted of a management team of specialists from EDS who in turn hired SAP consultants to provide specialized technical help with the implementation. Within the project team there were subject matter experts (SMEs) and staff that had vital knowledge of cross-functional business relationships and experience of the old legacy systems. In conjunction with this team there were operational business units (OBUs), each with its own ERP change management team, which was responsible for implementing working changes and training. The ERP team at RR could be classified into three categories: cultural, business, and technical.

The cultural team's challenge was to overcome the problems that stemmed from whether or not SAP (1) would be accepted by users throughout the company and (2) would provide similar functionality as the prior legacy systems. The cultural team decided to illustrate the benefits to the company as a whole in order to quell concerns. They did so by training individuals throughout RR. Specialist users were trained, and they, in turn, trained expert users. Along with meetings and presentations, they allowed users fully to understand and utilize functionality.

The business team had to overcome the problems that stemmed from the fact that SAP required a rigid business process structure that necessitated a vanilla implementation. This meant that working practices at RR would have to change in order to meet the functional demands of SAP. The business team used process mappings of current procedures and remapped them to show how they would have to be changed organizationally in order to meet the demands of SAP. Overall, expensive modifications to the SAP software were avoided.

The technical team had to overcome problems mainly to avoid the possibility of inaccurate data. Their main challenge was cleaning data during the migration. Mr. Uwe Koch, the technical lead at RR, says: "We didn't achieve all our targets and still haven't finished cleaning the data. We are in a stabilization period. Making enough people available for these tasks has been difficult." Data had to be screened and stored while avoiding duplication—a major concern for RR. RR built interfaces with the old legacy systems for some special circumstances, so some legacy systems weren't taken offline immediately. Interfacing required that data be retrieved from the prior legacy systems, which of course meant that it had to be accurate after being run into SAP. This was so because the reports generated from SAP had to be precise. This was accomplished by validating the data before putting it into the SAP data warehouse. The system required multiple weekly "runs" via a UNIX server, which bridged the data from the legacy systems.

The system rollout was another technical challenge. The ERP was designed in three phases, of which the third stage was actually the "implementation." The implementation was done in two waves. The first wave was focused around the replacement of the legacy systems. The second wave was done in order to implement such leftover elements as logistics and human resources that were not converted until wave one was completely successful.

The implementation team at RR, including EDS personnel and SAP consultants, identified problems that would be pertinent to the implementation of SAP as the ERP for the company before they could develop into issues that would impede and possibly cause the implementation to fail. Hence, a sound implementation strategy made the endeavour possible.

QUESTIONS

Q1.	What is the importance of an ERP system towards fulfilling the information needs at different levels.	[3]
Q2.	What do you think of RR's ERP <i>vanilla implementation</i> strategy? Did they select the right implementation strategy: defend your answer with reasons?	[7]
Q3.	Discuss the critical success factors of RR's implementation strategy and the role of SMEs in the project.	[7]
Q4.	What advice can you give to RR's technical team on their approach of migrating legacy system with the SAP software?	[3]