Review questions

1. Describe the differences among the three generations of enterprise systems – mainframe architecture, client-server architecture, and service-oriented architecture.

Mainframe architecture is a large, expensive, and isolated system. They main problem with mainframe architecture is that it cannot be scaled up very easy. Scaling refers to increasing the number of users and volume of operation. Client-server architecture is separated into the presentation, application, and data layers. Separating the application into distinct layers allows for easier scaling. Service-oriented architecture is the latest generation in the evolution. In this architecture, capabilities of the system are delivered via services that can be consumed by any application. This makes scaling and the development of new composite capabilities very easy.

2. Explain the functions of the different systems in an application suite. How are they related?

The different systems in an application suite include ERP, SCM, SRM, CRM, and PLM systems. ERP systems are internally focused while the other are externally focused. ERP systems focus on executing the various processes within a company. SCM and SRM systems link a company’s ERP system to those of its supplier. CRM systems connect a company’s ERP system with those of its customers. PLM helps an organization manage its product development life cycle.

3. What are the roles of organizational data, master data, and transaction data in an ES?

Organizational data identifies the organizational structure of the company. It identifies such things as divisions, departments, production and storage facilities, etc. Organizational data rarely changes.

Master data describes the key entities associated to the organization. Examples include customers, materials, and vendors. Master data changes infrequently.

Transaction data is data associated with the execution of specific a activity or task. Typical transaction data is who did what, when, and where, as well as specialized data that relate to the specific task, such as quantities.

4. What functional areas are included in SSB’s organizational structure? Is this a common organizational structure? Draw the organizational structure of a small or medium-sized company that you are familiar with.

SSB’s organizational structure includes the following areas: Accounting, Sales, Operations (plant), Purchasing, and warehouse. This is fairly typical. However variations are definitely possible. Students will provide several different structures for the last part of the question.

5. Describe the key problems SSB faced with its use of technology to manage its operations before it implemented an enterprise system. How can the ES improve SSB’s operations?
Some of the key problems that SSB faced with its systems before they implemented SAP was that all of the different functions had their own systems and they had to use floppy disks to update each of the systems. There was no consistency of data between the various systems. One example of a negative consequence of this is that they ordered too many helmets because the purchasing department did not have the correct inventory amount as they used an old version of a data file. SSB also had problems with their accounting system; it is never synced correctly with the other databases. The enterprise system keeps all the data in one common database and helps provide easy access to this data to all that need it. This reduces, if not eliminates the problems faced by SSB.

**True or False Questions**

1. In the client server architecture the data, applications and presentation are all included in one system.
   - False

2. CRM systems are intra-organizational systems.
   - False

3. SRM systems are intra-organizational systems.
   - False

4. CRM systems link a company with its suppliers.
   - False

5. CRM systems link a company with its customers.
   - True

6. PLM systems are concerned with purchasing materials from suppliers.
   - False

7. PLM systems are concerned with managing a product’s life cycle.
   - True

8. Customer data is an example of master data in an ES.
   - True

9. Customer data is an example of transaction data in an ES.
   - False

10. Vendor data is an example of organizational data in an ES.
    - False

11. Vendor data is an example master data in an ES.
    - True
12. Dates, times, and locations are examples of organizational data in an ES.  
   False

13. Dates, times, and locations are examples of transaction data in an ES.  
   True

**Multiple Choice Questions**

1. Which of the following is NOT part of the 3-tier architecture?  
   a. presentation layer  
   b. application layer  
   c. data layer  
   *d. hardware layer

2. Which of the following is an example of organizational data? Data about:  
   a. Customers  
   b. Vendors  
   *c. Sales Organizations  
   d. Material

3. Which of the following is an example of master data? Data about:  
   *a. Customers  
   b. Purchase Orders  
   c. Sales Organizations  
   d. Company Codes

4. Which of the following is the latest stage in the evolution of enterprise systems?  
   *a. service oriented architecture (SOA)  
   b. client-server architecture  
   c. process oriented architecture  
   d. presentation layer

5. Which of the following was the earliest stage in the evolution of enterprise systems?  
   a. service oriented architecture (SOA)  
   b. client-server architecture  
   c. process oriented architecture  
   *d. stand-alone mainframe architecture

6. Which of the following materials does Super Skateboard Builders (SSB), Inc. NOT make?  
   a. Entry-Level Skateboard  
   *b. Hooded Sweatshirt  
   c. T-Shirt  
   d. First Aid Kit