**Chapter 5 Study Guide**

**Information Systems for the Enterprise**

**Review Questions**

**1. What are the four major categories of information systems that support business processes common to most organizations? Which basic business functions does each provide?**

The four major information system categories for operation management are (1) finance and asset management, (2) human capital management, (3) supply chain management, and (4) customer relationship management. Finance and asset management comprises AP, AR, GL, inventory, and procurement. Human capital management comprises personnel management, payroll, benefits, time sheets, talent development, and training programs. Supply chain management comprises SCM software, warehouse management, and transportation management. Customer relationship management comprises contact management, marketing campaign management, e-mail marketing, sales force management, and customer service.

**2. What role does a financial and asset management information system serve in an organization? Why is financial reporting important? What are exception reporting and compliance reporting? Why is each important?**

Financial and asset management information systems are at the heart of an organization, supporting finance-related activities and processes, and reporting on all of the organization’s transactions and assets. Financial reporting is important because companies are held fully accountable for the accuracy and reliability of their financial records. Exception reports help identify events that fall outside of the accepted range. Exception reports automatically tag unusual events that need human eyes to review. For example, exception reports are used to spot fraudulent transactions, including ones committed by employees. Compliance reporting ensures that financial transactions conform to local, national, and international regulations. Worldwide trade and investment rely on trust, and compliance reports help to ensure reliable and consistent financial reporting.

**3. What is supply chain management? What is the most important metric in supply chain management? What does it measure? What are examples of supply chain management software? How is each used to support supply chain processes?**

Supply chain management refers to strategies that optimize the flow of products and services from their source to the customer. The most important metric in supply chain management is demand forecast accuracy (DFA). DFA measures the difference between forecasted and actual demand. Supply chain management software includes several specialized tools and applications used to manage and monitor various activities in the supply chain. Supply chain planning software is used to predict demand, synchronize with supply, and optimize the whole network. Warehouse management software is used to manage and optimize inventories, space allocation, shipments, cross-docking, and other warehouse activities. Transportation management software optimizes shipping, logistics, and fleet routing and scheduling. Manufacturing execution systems manage activities and flow through the manufacturing process. Global trade management software ensures compliance for cross-border transactions for importers and exporters.

Supply chain management systems focus on coordinating all of the activities and information flows involved in buying, making and moving a product until it reaches the customer. These systems provide information to help firms schedule, control, and coordinate procurement, production, inventory management, and delivery of products and services to customers.

Supply chain management systems provide information to combat the **bullwhip effect**, in which information about the fluctuations in demand for a product becomes distorted as moves across the supply chain.

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| **A supply chain. This figure illustrates the major entities in the supply chain and the flow of information upstream and downstream to coordinate the activities involved in buying, making, and moving a product. Suppliers transform raw materials into intermediate products or components, and then manufacturers turn them into finished products. The products are shipped to distribution centers and from there to retailers and customers.** |

In some industries, companies have extended their supply chain management systems to work more collaboratively with customers, suppliers, and other firms in their industry as a means of improving their planning, production, and distribution of goods and services.

**4. What is customer relationship management (CRM)? What are the objectives of CRM? How do organizations measure their customer relationship? How do information systems support each objective of CRM? What are three basic categories of CRM technologies? How do information systems support activities in each area?**

Customer relationship management (CRM) consists of the technologies and processes an organization uses to build relationships with its current and prospective customers. Some common objectives of CRM are improving customer retention, improving profitability, growing revenue, and just listening to customers. Information systems support improved customer retention by providing analysis of customer loyalty that leads to better marketing and increases rate of return. Information systems that provide online self-service applications and improved customer access to information serve to reduce the cost of serving each customer, thereby improving profitability. Information systems used by marketing and sales departments help companies find new leads, identify marketing segments, manage campaigns, and build the customer base, thereby growing revenue. Information systems such as social networking applications and sentiment analysis systems are used by companies to capture and analyze what customer say.

 The three basic categories of CRM technology are **marketing, sales force automation, and customer service and support.**Information systems support marketing activities such as loyalty programs and customized e-mail programs.

 **Sales force automation** systems help sales reps track and manage accounts, contacts, and leads.

 Information systems such as online knowledge bases and support sites, and social networking tools such as Twitter, support activities in customer service and support.

**5. Why are ERP systems important to organizations? What are the typical components of an ERP system? What are some of the issues associated with an ERP implementation? What is the success rate for ERP implementation? What is the primary benefit of a successful ERP implementation?**

ERP systems provide a solid, integration suite of applications that support the core functional requirements for managing the organization’s finances and human resources.

 The typical components of an ERP system include financial and asset management, human capital management, and may include manufacturing, CRM, and SCM.

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| **Traditional view of systems. In most organizations, separate systems built over a long period of time support discrete business processes and discrete business functions. The organization’s systems rarely included vendors and customers.** |

The enterprise system collects data from various key business processes and stores the data in a single comprehensive data repository where they can be used by other parts of the business. Managers emerge with more precise and timely information for coordinating the daily operations of the business and a firm-wide view of business processes and information flows.

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| **Enterprise systems. Enterprise systems can integrate the key business processes of an entire firm into a single software system that allows information to flow seamlessly throughout the organization. These systems focus primarily on internal processes but may include transactions with customers and vendors.** |

Enterprise systems can help promote a single organizational culture, focused on overall business performance using organization-wide performance standards such as return on assets, stock price, growth, or market share. Such systems can provide general managers with a firm-wide understanding of value creation and cost structure. Enterprise systems can help create a “customer driven” or “demand” organization, which better serves the customer’s value chain. The firm has new capabilities to forecast new products, and build them as demand appears.

Enterprise systems raise four challenges for firms: a daunting implementation process, surviving a cost/benefit analysis, achieving robustness, and realizing strategic value.

Enterprise systems purport to replace legacy systems based on out-dated information technology. But the legacy systems that must be replaced are the primary control systems of the corporation, containing millions of lines of software instructions. Thousands of employees use and rely on these systems everyday, as well as customers and vendors. The prospect of successfully and rapidly transforming the corporate nervous system, re-training thousands of workers, while also redesigning the fundamental business processes, all at once, while carrying on business as usual is daunting.

The costs of enterprise systems are large, upfront, highly visible, and politically charged, while their benefits are elusive to describe in concrete terms at the beginning of an enterprise project. The reason is that the benefits often accrue from employees using the system after it is completed and gaining the knowledge of business operations heretofore impossible to learn.

Enterprise systems are built with software programs that are just as difficult to understand, complex, poorly documented, and yet intertwined with corporate business processes as the legacy systems they will replace. There is every prospect that the new enterprise systems will be as brittle and hard to change as old legacy systems as the organization’s environment and information requirements change over time.

Perhaps the most significant issue facing enterprise systems is learning how to realize strategic value from the investment. Because so much of technology can be purchased by all competitors, technology per se, including ES, will not produce a sustainable strategic advantage. However, utilizing ES to achieve a better understanding of one’s business operations and customers is a totally unique asset that cannot be duplicated easily by competitors.

Research shows that more than 70 percent of ERP implementations go over budget and take longer than expected, and that expected benefits and reduced operating costs may be disappointing.

 Some studies show failure rates as high as 51 percent. The primary benefits of a successful ERP implementation are standardized and streamlined business processes across the whole enterprise, which eliminate waste and redundancy

**6. What is sentiment analysis? How do organizations use sentiment analysis to manage customer relationships?**

Sentiment analysis uses software to scan the text in blogs or other user-generated content and classify the opinions as pro, con, or neutral. Organizations use sentiment analysis to monitor customers’ online chatter.