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# ملخص ERP

حل أسئلة الكتاب مادة موضوعات مختارة 1 (ERP)

من الباب الأول (Chapter 1) الى الباب العاشر (Chapter 10)

بالتوفيق للجميع

لا تنسوني من خالص دعائكم اخوكم / احمد بن صويلح

# Chapter 1

## Q1: what are ERP system ?

ERP systems are systems that seek to ensure information in one system can be shared with other systems used elsewhere in the organization. They are cross-functional and process-centered because the data they contain serves the needs of the entire enterprise. ERP systems process inputs into outputs serving the information needs of all departments and business units of an organization.

## Q2: How are ERP systems different than traditional enterprise systems used in organizations?

Traditional legacy systems are functional systems and often use proprietary data sources that do not share data contained therein across the firm.

## Q3: What are the advantages and disadvantages of ERP systems?

**advantages**: Information is online and real-time. Information is shared across the firm in all areas. The single data point of entry eliminates re-keying, reducing human errors. Standardizes business processes.

**disadvantages**: Costly to implement and complex to users at first. Disruptive to current business practices. Employee resistance. Benefits are often not realized immediately

## Q4: How do ERP systems support industry best practices?

ERP systems enable enterprises to take advantage of industry best practices by embedding programming into the applications that will support the techniques, strategies, processes, actions, and methodologies that are proven most effective. The larger ERP vendors have thousands of best

## Q5:What is the difference among the various tiers that describe the ERP market?

Tier 1 vendors supply ERP systems to companies with 1,000 or more employees and sales over $250 million. Tier 2 supplies to medium-sized companies with 100-999 employees and sales between $20 and $250 million. Finally, Tier 3 supplies to companies with less than 100 employees and sales under $40 million.

# Chapter 2

## Q1: Describe the purpose of each tier in three-tier architecture?

The presentation tier of a multi-tier architecture uses a GUI to request information from the application server. The application tier is the business logic. The database tier is where the data, which is stored in a highly structured relational database where it can be accessed by the application to respond to user actions.

## Q2: What are the advantages of storing data in a relational database?

ERP systems store data in one or more highly structured relational databases where it can be accessed by the program to respond to user actions. A relational database includes tables of data linked together with fields in common. This linking allows for sharing of data, running queries and generating reports.

## Q3: Provide examples of one-to-one, one-to-many, and many-to-many database relationships?

An example of a one-to-one relationship could be department and boss. An example of a one-to-many relationship is the customer order process, where a customer can have multiple orders but an order comes from only one customer. An example of a many-to-many relationship is orders and inventory items. An order can have many types of inventory items on them and inventory items can go on many different orders.

## Q4: What is the difference between configuration and customization?

Configuration is the process of selecting “switches” that lead the software down one path or the other. It is choosing among available options. Customization is involves enhancing or modifying the software code to make it do something it was not intended to do

## Q5: Discuss the advantages and disadvantages of customizing ERP software?

Customizing can increase implementation time and costs because it requires software design and programming. Customizing the ERP software will make upgrades more difficult as the upgrade will have to be “retro-fit” with the customizations all over again, further increasing costs. However, the company that customizes obtains a perfect fit software solution and possibly a competitive advantage.

# Chapter 3

## Q1: What is the definition of business process reengineering?

BPR is the fundamental, radical, redesign in business processes to achieve dramatic improvements in key measures of performance such as cost, quality, speed, and service.

## Q2: How does reengineering relate to ERP?

ERP systems are often the catalyst for a BPR effort; implementing an ERP system often requires a drastic departure from the way an organization used to work. Business processes are changed radically to match the best practices in the ERP software.

## Q3: What are the two types of reengineering? What are the disadvantages and advantages of each approach?

The two types of reengineering are clean slate and technology-enabled. The advantages to clean slate reengineering are that it tends to foster innovation and creativity, which can result in a sustainable competitive advantage. The disadvantages of clean slate reengineering are that it can be costly, requiring substantial time and resources and ultimately the processes may turn out to not be feasible. The advantages of technology-enabled reengineering are that it is quicker to implement, there is reduced uncertainty of adopting new processes because other organizations may have adopted the process designs, more cost-effective, and the software supports industry best practices. A major disadvantage is that it does not allow the same level of innovation and creativity in the process design as clean slate reengineering.

## Q4: List and explain five reengineering principles?

1) Treat geographically dispersed resources as though they were centralized - Although a company may be global, it can still share a common database.
   2) Organize around outcomes not tasks - Organize around processes, not tasks or functional area –BPR/ERP should focus companies on outcomes, not activities, and force an examination of processes step-by-step to make sure every task is essential and no task is repeated.
   3) Self service – In addition to moving cost and accountability for work to the beneficiary of a process, the responsibility for information accuracy also transfers with self-service. Self service should also be used with suppliers and customers.
   4) Capture information once and at the source - Data should be entered one time where it originates and then dispersed to all who need it. This increases data visibility and reduces errors and redundancy in information throughout the company.
   5) Empower workers - Many companies have found that empowering workers with decision-making responsibilities leads to a higher quality product and service, faster response times to problems, and fewer levels of management.

## Q5: What are some issues to consider when selecting a process to reengineer?

The primary focus of the reengineering effort is customer value. Beyond that, the three Cs (customers, competition, and change) should be used to target a reengineering process. Other issues to consider include: the process as part of a core competency; high volume, low margin activities; high defect/reward activities; high skill, time intensive activities; high complexity, specialized resource activities; and obsolete or changing technologies.

# Chapter 4

## Q1: List several uses for systems documentation in business?

Describing business processes, assessing internal control procedures and evaluating, designing or changing information systems.

## Q2: What are the benefits of process mapping?

• Defining the "as is" business process and clarifying the changes necessary to transform the present process into the optimum "to be" process
• Determining whether "as is" measures of performance are appropriate and potentially developing new performance measures to promote efficiency
• Promoting awareness of employees' responsibilities, such as during training or performance reviews
• Showing the impact a certain role's performance has on upstream and downstream activities in a process
• Highlighting workflow inefficiencies such as delays, queuing times, excessive handoffs and unproductive utilization of resources
• Identifying opportunities to streamline and improve processes, thereby gaining efficiencies
• Pinpointing internal controls (or lack of controls) that need to be tested during an audit

## Q3: What steps are involved in creating a process map?

• Have a defined purpose for mapping a process and explain it to those that are participating in the exercise.
• Identify the scope of the process.
• Determine the roles participating in the process.
• Determine the trigger activity.
• Make sure events move left to right or top to bottom to indicate the passage of time.
• Make sure the information being exchanged is entered on the process flow lines.
• Decision descriptors should end with a question mark, and the process flow lines coming out of the decision are labeled with outcomes.
• Identify the businesses process to be mapped and label it at the top of the map.
• List the roles involved in the process down the left column of the first page, separating them with horizontal lines known as swim lanes. The last swim lane can be used for the information system(s).

Q4: What kind of problems can be identified by process maps?

Handoffs, bottlenecks, rework, role ambiguities, data duplication, long cycle times, non-value added activities, and unnecessary or repetitive steps.

Q5: What can examining decisions in a process map tell us?

• Authority ambiguity - By clearly defining who owns the decision point, the process map eliminates a potential source of confusion.
• Decision necessity - When decision point output flows lead toward the same or similar events, the process may include unnecessary decisions that may generate unwarranted delays.
• Decisions too early - When decision point output flows continue for a long time before encountering subsequent events, the decision point may, in fact, be made too early, leading to unnecessary downstream complications.
• Decisions too late - When decision point output flows lead to errors or rework, decision points might need to be moved earlier to provide quality assurance or confirmation of customer satisfaction and eliminate costly remediation.

# Chapter 5

## Q1: What are the four stages of the ERP life cycle?

1- Planning
2- Package selecting
3- Implementation
4- Maintence

## Q2: What are the four major rationales used by companies when deciding to invest in ERP?

1- Technology Rationale
2- Competitive Rationale
3- Strategic Rationales
4- Business Process Rationale

## Q3: List key cost components of ERP software?

1- Total cost of ownership
2- App license
3- DB license
4- Hardware
5- Implementation serves
6- Hidden costs

## Q4: What steps are involved in choosing an ERP package?

1- Market survey
2- Request for info
3- Request analysis
4- site survey

## Q5: How can you make sure that an ERP software **Demo** runs as smooth as possible?

| |
|---|
| Use the same team to view all vendor demonstrations |
| Agree the agenda with vendor well in advance and stick to it |
| Confirm the “must haves” first and then the “nice to haves” and lastly the “bells and whistles” |
| Compare fits and identify gaps |
| Focus on the system’s operation avoiding the influence of freebies, a flashy appearance, and slick suits |
| Notice their culture |
| Allow the vendors to share their new ideas |
| Leave enough time for a post-demo Q&A |
| Use a weighted score sheet for scoring and ranking vendors |
| Cover implementation and support/maintenance separately |

# Chapter 6

## Q1: Describe the different types of testing performed in ERP implementations ?

- Specific types of testing include:
- *Unit testing* – testing small increments of functionality or a single development object
- *Integration testing* – testing end-to-end business processes
- *Customer acceptance testing* – users test the system using realist business scenarios, to their approval or acceptance
- *Security testing* – testing all of the user roles and authorizations in the system
- *Performance load testing* – testing business transaction volume and concurrent user activities with expected peak load

## *Q2: What is the difference among the various ERP implementation strategies ?*

**Table 6-5:** Comparison of Different ERP Implementation Approaches

| Approach | Time | Internal Cost | External Cost | Amt of Change | ROI |
|---|---|---|---|---|---|
| **Balanced -** A cooperative approach between the company and vendor providing a shared effort for all implementation aspects. | Med | Med | Med | High | High |
| **Risk:** Internal resource capacity | | | | | |
| **Turnkey -** An accelerated, delivered solution, reducing internal investment by minimizing customer contribution. | Low | Low | High | Med | Med |
| **Risks:** User acceptance, change management | | | | | |
| **Customer Driven -** An approach that maximizes the customer's involvement and minimizes involvement from consultants. | High | High | Low | Low | Med |
| **Risks:** Missed opportunities, maintaining momentum over time, internal resource capacity | | | | | |
| **A la carte -** Customer owns the process, with consultant involved as requested. | High | High | Low | Low | Med |
| **Risks:** Implementation success, lack of control & guidance, missed opportunities, maintaining momentum over time, internal resource capacity | | | | | |

*Source: mcaConnect*

## Q3: List 10 principles of change management ?

1- Address the "human side" systematically

2- Start at the top

3- Involve every layer

4- Make the formal case

5- Create ownership

6- Communicate the message

7- Assess the cultural landscape

8- Address culture explicitly

9- Prepare for the unexpected

10- Speak to the individual

## Q4: List benefits and risks associated with using consultants ?

**Table 6-4:** Benefits and Risks of Using Consultants

| Benefits | Risks |
|---|---|
| **Unbiased and objective -** Fixed contracts tend to reduce bias | **Biased -** Association with particular software vendors and participation in technical communities may result in bias toward favorite packages |
| **Knowledge of vendors -** Consultants can offer valuable knowledge regarding suitable software providers and their relative strengths and weaknesses | **Lack of knowledge of the client's business processes and culture -** Consultants must get up to speed and learn on company time |
| **Knowledge of best practices -** Consultants can provide expertise designing processes to address best practices and to include them in implementation plans | **Advocacy of best practices -** This may threaten company differentiators and competitive advantage |
| **Implementation experience -** Familiarity with technical details eliminates many potential points of failure | **Expensive -** Consultants with proven track records command market power |
| **Big picture focus** | **Unaware of process details** |
| **Innovative** - Able to envision valuable opportunities to integrate company processes with software functionality | **Knowledge may not be transferred to company employees -** Inadvertently handing over project ownership to consultants |
| **Senior management endorsement** | **May hesitate to offer legitimate criticism of management actions and decisions** |

*Source: strategy+business.com*

## Q5 : What factors can help ensure a successful ERP implementation ?

# Chapter 7

## Q1: Define CRM and discuss how it evolved?

Customer relationship management (CRM) is a bolt-on to ERP, which evolved out of SFA tools, that serves as a front-end interface to the customer and helps an organization with customer demands.

## Q2: List CRM functionalities?

**Table 7-1:** What is CRM About?

| |
|---|
| Acquiring customers |
| Keeping customers |
| Growing your customers |
| Gaining customer insight |
| Interacting with your customers across all touch points |
| Building lasting relationships with your customers |
| Delivering value to your customers |
| Achieving a sustainable competitive advantage |
| Growing your business |

*SAP 2007*

## Q3: How does CRM integrate with ERP?

KM focuses on finding a solution to a problem that requires detailed insight, and better integration of KM and CRM can help companies navigate difficult support problems more quickly and easily.

## Q4: What activities are involved in order fulfillment?

Order fulfillment includes the pick, pack, and ship activities.

## Q5: What are the steps for creating a knowledge management system?

a) Recognize things that employees know, that are valuable and not being shared

b) Create formal procedures to implement the system

c) Create a knowledgebase including best practices, expertise directories, and market intelligence

d) Make the knowledge available to people that need it

e) Give employees incentives for both sharing their knowledge as well as using others' knowledge

# Chapter 8

## Q1: List several benefits of implementing ERP Financials?

1- Improve Corporate Performance
2- Faster time to close the books
3- Improve corporate governance and transparency
4- Shorten days sales outstanding
5- Optimize global cash management
6- Improve financial and managerial reporting
7- Improve process integration between finance and treasury
8- Make finance costs more competitive.

## Q2: What are key ERP financial accounting components and what functionality do they provide?

General Ledger: an accumulation of balances from transactions and postings

A/P Sub ledger: identifies the balances owed to every vendor calculated from purchases, returns and allowances, purchase discounts, payments, and other adjustments

A/R Sub ledger: records all account postings generated as a result of customer sales activity and identifies the balances owed by customers

Cash Management: functionality related to investments, cash flow, and the accounting requirements these cycles generate.

Q3: What are key ERP management accounting components and what functionality do they provide?

- Cost accounting: establishes budget and actual costs of operations, processes, departments or product and analyzes variances and profitability (one of its main activities)
- Overhead Costing: helps with planning, allocating, and controlling indirect costs and other costs that have a true origin are treated as direct costs
- Activity Based Costing: helps to more objectively assign overhead costs by tracing it based on the cause and effect of relevant cost drivers (activities that cause a cost to be incurred)
- Product Costing: help determine the cost of products manufactured or services provided (using direct materials, direct labor and overhead)
- Profitability Analysis: considers certain segments of the organization and determines the profit they generate
- Cost/Profit Center Accounting: companies may set up certain departments and business units as cost or profit centers

Q4: List the steps in the asset management life cycle?

1- Planning
2- Approval
3- Budgeting
4- Implementation
5- Settlement and Capitalization
6- Maintenance and Use
7- Retirement
8- Replacing Investment

Q5: Describe how investment management works with asset management?

Investment Management provides the tools for pre-investment analysis during the planning stage of the asset management life cycle.

# Chapter 9

## Q1: List reasons why it benefits organizations to implement HCM modules?

HCM comprises the strategy and business processes that transform employees into competitive assets that support operating and financial results

Modern HCM solutions encompass not only the typical functions of the old legacy systems, but also advanced features and bolt-ons to help better manage employees, executives, contractors, and other participants in the company's objectives

(1) People Matter: organization's most important asset is its people and human/intellectual capital created through their employment

(2) HR activities are data intensive: nearly every HR action generates one or more records

(3) HR data is extremely sensitive: HR records present various reqs with regard to care, custody, and control (risk associated with mismanagement of HR files is great)

(4) HR data is valuable to the rest of the organization: nearly every ERP module will reference employee master data in HCM module.

Q2: What are the main sub-modules of HCM and what functionality do they provide?

- Personnel Management: captures employee master data to be used in any number of reporting contexts.
- Recruitment Management: supports the opening components of the employee life cycle.
- Benefits Administration Module: involves management of benefits for qualified employees.
- Compensation Management: automates accounting and preparation of payroll checks for employees.
- Time and Labor Management: allows workers to submit timecard data and supervisors to review and approve time online.
- Talent Management: works with RM to analyze personnel usage within an organization and help retain good employees.
- Employee Performance Management: streamlines employee appraisals from goal planning and coaching to performance assessments and rewards.
- Learning Management: administers employee learning, thereby manages talent and increases intellectual capital in the organization .
- Environment, Health, and Safety: provides the tools to administer compliance and manage risks associated with health and safety regulations that arise from local, state, and federal agencies .
- Travel Management: aspect of both ESS and MSS, which automates the planned trip-to-payment process .

Q3: List advantages of employee self-service and manager self-service?

i) Improved service for and communication with employees

ii) Streamline administrative processes and reduced costs for HR

iii) Employee sense of ownership of their personal information and a renewed sense of trust in their employer

iv) Error reduction due to data input being in hands of people who know it best

v) More timely updates.

## Q4: Describe benefits of outsourcing HR tasks?

Outsourcing non-core functions allows companies to focus exclusively on their core business, while recognizing significant savings and increased expertise Reasons for outsourcing: save time, save money, and penalties (number 1 reason = cost).

## Q5: Define the concept of employee performance management and what it involves?

Essential part of TM Streamlines employee appraisals from goal planning and coaching to performance assessments and rewards  Assess performance of employees, set goals, and align with strategy Feeds into promotion decisions, merit pay, and terminations

Steps in EPM:

(1) Planning and setting expectations

(2) Monitoring performance continually

(3) Developing the capacity to perform

(4) Rating performance

(5) Rewarding performance

# Chapter 10

Q1: What are the steps in the evolution of ERP systems in manufacturing?

EOQ => MRP (60s) => Closed Loop MRP (CRP techniques) (70s) => MRPII (80s) => ERP

Q2: What tasks need to interface with each other in manufacturing?

Production Planning and Inventory Management.

Q3: For manufacturing companies adopting an ERP system, what key modules should they examine? What does each do?

Production Planning (PP): enables the creation of realistic production plans across multiple plants and subcontractors to fulfill demand in a timely manner and according to standards expected by the customer

Lean Manufacturing: philosophy of production that emphasizes the maximizing an enterprise's resources and attempts to reduce inventory and eliminate waste (the costs that add no value to a product)

Materials Management: supports inventory-related activities (purchasing, tracking, and control of raw materials, trading goods and finished goods) in an integrated inventory control environment

Quality Management: assists in configuring specific parameters that define what goods to inspect, when to inspect, and the tolerance limits(values that are considered acceptable)

Plant Maintenance: used by large organizations in capital-intensive industries for corrective (repairs) and preventive maintenance

Service Management: manages the lifecycle changes to existing services or installed products after the initial customer order is filled

Warehouse Management System (WMS): automates the flow of materials into, through, and out of the warehouse (is a bolt-on)

Supplier Relationship Management: enables businesses to manage the relationship between procurement personnel and suppliers

Q4: What are some benefits of EDI to the customer and Supplier?

**CUSTOMER :** POs take less time to transmit, lowering required inventory levels Since there is quicker order acknowledgement, customers can find an alternative supplier if current supplier can't provide the desired product when needed Reduced time spent matching supplier invoices to POs and entering AP info Reduced back-orders or out of stock situatoins .

**Supplier:** is relieved of the process of re-keying and verifying orders Elimination of problems and delays caused by data order entry errors. Errors in order entry mean missed ship dates, shipment of incorrect items or quantity, and lower customer satisfaction Time is reduced from invoicing/payment cycle improving the cash flow of the supplier Inventory reductions

Q5: What are some benefits of VMI to the retailer and supplier?

**retailer**: Reduced stock-outs because supplier keeps track of inventory movement and takes over responsibility for product availability Increased customer satisfaction and sales due to fewer stock-outs

Reduced forecasting and purchasing activities

Reduced inventory due to lower safety stock since the supplier can control lead time better than customer

**supplier** : forecasting because of real-time demand information from customer

Reduce purchase order errors and purchase returns by customer because of fewer mistakes

Improvements in service level agreements since supplier knows the need for item and thus orders right product at right time, leading to supply chain cooperation

Reduced inventory because supplier knows how much and when customer is going to buy.

**" أتمنى لكم التوفيق ولا تنسوني من خالص دعائكم اخوكم / احمد بن صويلح "**