

MODULE 6

CHAPTER 6

Information System Within Organization

University Prescribed Syllabus

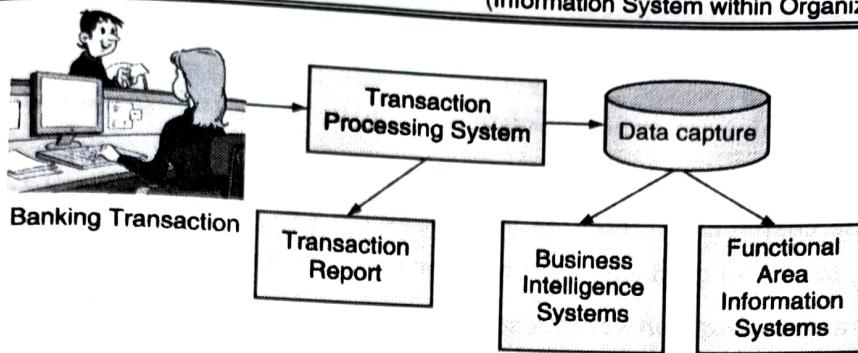
Transaction Processing Systems, Functional Area Information System, ERP and ERP support of Business Process. Acquiring Information Systems and Applications : Various System development life cycle models.

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Computer based information systems are much more reliable, and they provide many other benefits over traditional paper based systems. Various processes from collection, storage, analysis, and distribution of information become quite easy and faster using computerized information systems. There are various types of Information systems used within organizations. We will have a quick look at the different information systems and the scope of their usage.

► 6.1 TRANSACTION PROCESSING SYSTEMS

- A **transaction** is any business event or activity that generates data valuable enough to be captured and stored in a database.
- Examples of transactions could be anything like an order processed, a booking cancelled, product manufactured, a service sold, a person hired etc.
- A **transaction processing system (TPS)** deals with the monitoring, collection, storage, and processing of data generated from the organization's fundamental business transactions.
- The TPS constantly gather data in real time and it is stored in the company's databases.
- They are very essential to the success of the business organization as they support all major and core business processes.
- These systems should be designed to handle large volumes of data accurately, securely, without any errors and intermissions.
- The outputs of TPSs are inputs to various functional area information systems and business intelligence systems.
- The TPSs need to take care of access control and synchronization control. i.e. errors due to simultaneous updates from multiple locations by authorized users must be avoided. Suppose a withdrawal is done from ATM as well as by cash slip at the same time from the same account then the TPSs must be able to handle and reflect these simultaneous updates without any inconsistencies.
- The TPSs should be capable of reversing a transaction. Suppose a railway reservation is cancelled, then the refund with the applicable deductions must be reflected back in the customer's account. Also at the same time the seat availability due to cancellation must be reflected back in the railway database.
- The TPSs should maintain regular audit trails as well.
- The data is processed by these types of systems in two ways either batch processing or online transaction processing.
 - o In **batch processing**, the transactions are grouped into batches and then these batches are processed together at regular intervals.
 - o In **online transaction processing (OLTP)**, the transactions are processed online in real time as and when they occur.
- A simple transaction processing system is shown in Fig. 6.1.1.

**Fig. 6.1.1 : Typical Transaction Processing System**

6.2 FUNCTIONAL AREA INFORMATION SYSTEM(FAIS)

UQ. What are the functional areas of Information system. Explain in detail. (MU-Q. 5(B), Dec. 19, 10 Marks)

- Within an organization, every department incorporates its own set of application programs and information systems. These systems are commonly known as Functional Area Information Systems (FAISs).
- As the name implies these FAISs support business processes of a specific functional area within the organization quite efficiently.
- Typical FAISs are production management information systems, accounting and finance information systems, marketing and sales information systems, human resource information systems etc.
- Fig. 6.2.1 summarizes the overall information systems supporting the various functional areas.

➤ Activities Supported by Functional Area Information Systems

☞ Accounting and Finance

- o Accounting and Finance information systems help in financial planning and budgeting.
- o They help in allocating financial resources appropriately to various activities within the organization.
- o They support organizational investment management in stocks and bonds.
- o These systems also facilitate budgetary control by comparing overall expenditures with the incoming cashflows.
- o They also deal with managing the payroll of the employees.
- o Also as a part of accounting and finance information systems, regular financial auditing is carried out to monitor organization's financial health.

❖ Marketing and Sales

- Marketing and sales information systems help in maintaining customer profiles and their choices and preferences.
- Based on the customer preferences these systems can better handle their customers, satisfy their needs, maintain good customer relations and thereby help in customer retention.
- Sales force automation softwares are used to automate the business processes of sales, thus improving the productivity of sales representatives.
- They also deal with planning of Advertising campaigns for promoting the products.

❖ Production/Operations and Logistics

- These information systems deal with various business processes like manufacturing resource planning, materials requirement planning, inventory management and quality control.
- Manufacturing and material management systems basically deal with planning the production, purchasing, inventory and labour management.
- Inventory management systems monitor inventory levels, threshold to decide when new orders need to be placed to keep the stock updated.
- Quality control and monitoring supports keeping track of defects in products encountered and minimizing the defect rate.
- These days computer supported manufacturing approach is in use that integrates several automated systems, such as computer-assisted design (CAD), computer-assisted manufacturing (CAM) etc.

❖ Human Resource Management

- Human resource management information systems support recruitment processes right from shortlisting candidate profiles, conducting interviews and tests, to final selection of candidates.
- These systems maintain employee records. They support conduction of regular trainings for the employees.
- They facilitate continuous performance evaluation of employees to decide upon best employees and rewarding them appropriately.
- These systems manage the employee benefits data like retirement and pension policies, holiday schemes etc.

Functional Area	Accounting	Finance	Human Resource	Production / Operation	Marketing
Management Level					
STRATEGIC	Profitability Planning	Financial Planning	Employment Planning	Product Lifecycle Management	Sales forecasting, Advertising
TACTICAL	Auditing, Budgeting	Investment Management	Benefits, Performance Evaluation	Quality Control, Inventory Management	Customer relationship Management, Sales Force Automation
OPERATIONAL	Payroll, Accounts Payable and Accounts Receivable	Manage Financial Transactions	Maintain Employee Records	Order processing and fulfillment	Customer profile, Set pricing

Fig. 6.2.1 : Information systems supporting the functional areas

6.3 ENTERPRISE RESOURCE PLANNING(ERP) AND ERP SUPPORT OF BUSINESS PROCESS

6.3.1 ERP Systems

- The FAIS are designed to serve individual departments within an organization. They hardly communicate with any other system outside their functional area.
- But there could be cases where more than one FAIS require the same data and multiple copies of the same data are maintained.
- Say for example, same product details would be maintained by sales and marketing as well as production department separately.
- Here at this point, Enterprise Resource Planning systems can be used to resolve this problem. ERP systems are designed to correct the lack of communication among the FAIS. ERP systems overcome this problem by tightly integrating the functional area IS via a common database.
- The main objective of ERP systems is to provide a single business process view of the entire organization and combine together the planning, management and organization's overall resources using a common software and database platform.
- The major objectives of ERP systems are to tightly integrate the functional areas of the organization and to enable information to flow smoothly across them.
- Few of the leading ERP software vendors are SAP, Oracle, PeopleSoft.
- Organizations can either use commercially available ERP softwares or can custom build ERP systems as per their organizational business requirements.



6.3.2 ERP II Systems

- The ERP systems have been evolving with time where initially ERP systems integrated only the core business processes of manufacturing like raw material management, inventory management, order fulfilment etc.
- Gradually, in the later versions of ERP softwares other modules such as sales and marketing, customer relationship management, supply chain management were also added.
- These days business organizations have started implementing a newer approach of ERP systems called ERP II.
- ERP II employs a Web enabled platform to hook up all the business processes together under one packaged ERP solution.
- Not just within the organization but ERP II systems provide Web enabled links among interorganizational processes within the industry value chain as well.
- All the key business systems from suppliers and procurement, inventory and manufacturing, distribution and order fulfilment, to customer relationship everything is encompassed under a single umbrella of web enabled ERP II systems.
- The ERP II system and various modules covered within it are depicted in Figure 6.3.2.
- Manufacturing and Production, Accounting and Finance and Human Resource make up the core modules whereas Supply Chain Management, Customer Relationship Management, Business Intelligence, E-Business are all extended modules.

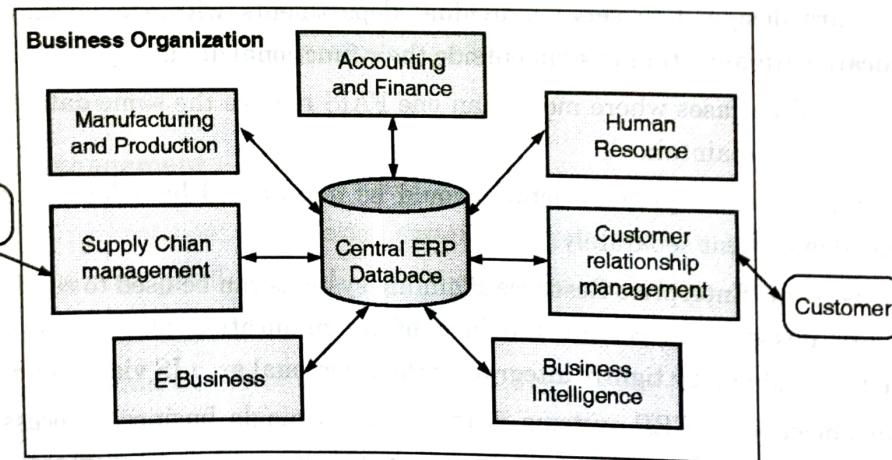


Fig. 6.3.2 : ERP II Systems

- Let us first have a look at core modules.
 - o **Manufacturing and Production :** This module encompasses all the processes associated with production planning, material requirement planning, procurement, inventory, production scheduling, quality control, transportation and distribution.

- o **Accounting and Finance** : All the aspects of financial management like accounting, cash management (inflow and outflow), budgeting, credit management, tax accounting, asset management are covered up in this module.
- o **Human Resource** : This module deals with business processes associated with workforce planning, employee recruitment, payroll, performance management, employee benefits, their trainings etc.

The extended modules are described below.

- o **Customer Relationship Management** : This module supports all the activities associated with organization's relationship with the customer like maintaining customer information, their preferences and purchase history, their credit information, enabling customer satisfaction, maintaining customer loyalty, enforcing customer retention, etc.
- o **Supply Chain Management** : This module manages information flows among various stages of supply chain to manage its efficiency. It tries to optimise the entire supply chain, right from acquisition of raw materials to delivery of finished products.
- o **E-Business** : This module provides web based interface to business-to-consumer and business-to-business transaction information. Customers and suppliers can access the ERP through this interface to get whatever information they want such as order status and tracking, invoice settlements etc.
- o **Business Intelligence** : These modules help in accumulating the information from various areas of the business organization and then perform analysis on this information using various analytical tools (BI tools).The results of the analysis help the managers in taking useful business decisions.

6.3.3 Benefits and Limitations of ERP Systems

- ERP systems provide substantial benefits to the business organization. Few of them are:
 - o They make organizations more flexible and adaptive. This is so because now information can easily flow among various functional areas through the common ERP database which was not possible in the traditional isolated systems.
 - o These systems enhance the decision making process for improving business performance as they collect information from varied functional areas. So the decisions made are more better and accurate.
 - o The ERP systems integrate various facets of business under a single packaged solution thereby trying to improve the quality and efficiency of the different business processes within the organization. Quality of customer service, quality of production etc., everything is highly improved.

The major drawbacks of ERP systems are:

- o The pre packaged ERP solutions available in the market have been designed considering the best possible solutions for achieving business objectives in general for any industry.



- For certain business organizations whose procedures do not match exactly with the predefined solutions provided by the ERP software, then in that case, the organization will have to manipulate their business processes as per the software.
- Further, the employees should be willing to accept the changes in the existing way of carrying out the business processes.
- Cost involved in implementing an ERP system is quite high. They could also be time consuming to implement and risks of failure are also substantial. Many businesses have faced heavy losses because either core business processes or information systems failed or did not work properly.
- Failures could also be caused because the ERP systems were designed without proper knowledge of core business processes, lack of involvement of employees while implementing these systems or insufficient training on how to use the systems.

❖ 6.3.4 Implementing ERP Systems

Companies can implement ERP systems in two ways, either using on-premise software or by using software-as-a-service.

- **On-premise software based ERP systems :**

They can be implemented in three ways:

- *Vanilla approach* where the organization implements the standard packaged ERP solution. The organization has barely any chance to diverge from the standard functionalities provided by the packaged software.
 - *Custom approach* where the organization implements a customized ERP system built by adding functionalities specific to the business organization. Customization can turn out to be more expensive and sometimes risky as code is rewritten everytime new version of the ERP software is released.
 - *Best of breed* method combines benefits of vanilla and custom approach, thereby avoiding excessive costs and risks related to complete customization.
- **Software-as-a-service (SaaS) :** Rather than buying or custom building a complete ERP solution, an organization can avail software-as-a-service. The organization will rent the software from the ERP cloud vendor over the Internet using SaaS.
- The ERP cloud vendor takes care of software updates, security and other concerns. Organizations who cannot afford large IT investments can go for this option. Moreover such systems can be accessed anytime and from anywhere.

❖ 6.3.5 ERP Support for Business Processes

- ERP systems support a lot of standard business processes. They handle and manage end to end, cross-departmental processes.

Cross-departmental processes are those that have their origin in one department and end up in some other department. Say, for example the procurement process begins in the warehouse department and ends in the accounting department after the payment is processed. Another variation of cross-departmental processes is where the processes originate and end up in the same department but need the involvement of other departments. For example, the production process has its origin in warehouse department and ends also in the warehouse department but needs the involvement of the production department as well.

6.3.6 Reports

UQ: Compare and contrast the three basic types of reports which are closely associated with FAIS and ERP systems.

(MU - Q. 3(E), Jan. 2020, 5 Marks)

- Generally, reports are generated by all the information systems like Transaction Processing Systems, Functional Area Information Systems, ERP systems etc.
- The three basic types of reports which are closely associated with FAIS and ERP systems generally fall into three categories: **routine, ad-hoc (on-demand), and exception.**
- **Routine reports** are those which are generated at regular intervals or rather scheduled intervals. They could be reports that are generated on hourly or daily basis. Daily absenteeism report, hourly report of the defects encountered and quality check etc., are all examples of routine reports. These are very helpful to the managers for evaluating routine progress.
- **Ad-hoc (on-demand) reports** are those which are not routine but out-of-the-routine reports. Which means sometimes the managers may not want the routine reports that are generated on regular basis but they might ask report for a different time interval. Say, for example, production report of last three days and not the entire week.
- Adhoc reports are further classified as

- o **Drill-down reports** display information in greater levels of detail. For example, a manager might want the sales data by city and then by a particular area within that city and then further in detail a particular store in that area.
- o **Key-indicator reports** summarize the performance of critical activities. For example, a finance manager of the company might want reports to monitor cash flows and cash on hand.
- o **Comparative reports** help to compare the performances of different business units or of a single unit at different times. For example, sales report on weekdays and weekends for comparison purpose.

Exception reports are generated only when something happening in the on-going business process falls outside certain threshold standards. For this, first the management fixes up certain performance standards for the organization.

The business processes are monitored to check for any deviations from the standards. If so, they are reported in such exception reports and necessary actions are further taken.



- For example, the management would decide upon the acceptable threshold of return of defective products, say around 5% of total items produced. But, as per the exception reports if the number exceeds 5% that means a strict line of action needs to be taken.

6.4 ACQUIRING INFORMATION SYSTEMS AND APPLICATIONS

6.4.1 Planning for and Justifying IT Applications

- Whenever an organization plans for acquiring a new IT application or an information system (IS), the first step of the planning process is analysis of the organization's strategic plan.
- Strategic planning means clearly identifying the firm's overall mission, what goals need to be achieved and how to achieve them.
- After an IT strategic plan is ready, operational planning on the same begins, where the executive managers and the IT managers will start planning the IS system projects to be undertaken to achieve the IT strategic plan.
- The IS operational plan comprises of the overall mission and objectives to be achieved through the implementation of the IS, environment in which the IS will work, resources required, constraints(financial, personnel, technological) if any, prioritized list of applications already present and applications that need to be developed in the year, etc.

6.4.2 Evaluating and Justifying IT Investment : Benefits, Costs, and Issues

The next thing to be done after the IT plan is ready is justifying the investment into the IT projects. Because the organization has limited resources which are to be allocated into various other sectors along with IT sector, so a proper analysis of the costs that will be incurred and benefits that will be achieved has to be carried out. Based on that a decision would be made whether the IT investment is beneficial or not. This analysis is called **cost-benefit analysis**.

- **Assessing Costs** : First thing is calculating the costs that will be incurred. Costs are of two types **fixed** and **variable**.
 - o **Fixed Costs** : These are usually onetime costs and do not occur or change frequently. The development cost, cost of IT infrastructure are majorly onetime costs. Salaries of IT managers, although salaries may hike but it is not that frequent. So, they all come under fixed costs.
 - o **Variable Costs** : These are the on-going costs which will be incurred until the IS is in use. For example, the maintenance cost, electricity bills, internet charges etc.
- **Assessing Benefits** : Next is evaluating the benefits that will be achieved. Benefits can be **tangible** or **intangible**.
 - o **Tangible Benefits** : Tangible benefits are those that can be easily quantified like yearly profit gained, total yearly sales, etc.
 - o **Intangible Benefits** : Certain benefits which cannot be measured directly are intangible. For example, improved customer satisfaction, employee retention etc.

- **Conducting Cost - Benefit Analysis :** Once both the costs and benefits are identified, a cost-benefit analysis is conducted. The costs and benefits are compared to evaluate whether the IT investment will be profitable to the organization or not. For doing so there are four common approaches:

- o **Breakeven Analysis :** It determines the point called the break-even point, at which the cumulative dollar value of the benefits equals the investment made in the IT project.
- o **Net Present Value (NPV) :** This method brings the future values of benefits to their present-value by adjusting the organization's cost of funds that will be incurred in future. For this the NPV method uses a multiplying factor called the "discounting factor". Then a comparison of present value of the future benefits and the costs required to achieve those benefits is done to determine whether the benefits exceed the costs.
- o **Return on Investment (ROI) :** Return on investment is calculated by dividing the net income generated by a project by the average assets invested in the project. ROI is given in percentages and higher the ROI, better is the investment.
- o **Business Case approach :** In this approach, system developers write business cases for justifying the investment and funding for one or more IT projects. These business cases describe what will be done, how it will be done, and how the new system will better support the organization.

6.4.3 Strategies for Acquiring IT Applications

UQ: Describe the four fundamental business decisions that organizations must make when acquiring information systems. (MU - Q. 3(F), Jan 2020, 5 Marks)

- After an organization has justified an IT investment, it must then decide how to pursue it. From the evaluations of cost-benefit analyses, there would be several options in front of the management for acquiring IT applications.
- To select the best option, organizations must make a series of business decisions. The fundamental business decisions are:

How much computer code does the company want to write ?

An organization can decide to use a totally prewritten application and not write any computer code, or to customize a prewritten application i.e. to write some new computer code as per needs, or to custom-write an entire application from scratch.

How will the company pay for the application ?

Once the organization has decided how much computer code to write, it must decide on how to pay for it. If prewritten applications or customized prewritten applications are going to be used then in that case organizations can buy them or lease them. For totally custom built applications, organizations can use internal funding.

Where will the application run ?

The next decision is whether to run the application on the company's platform or on someone else's platform. If the management decides, the organization can opt for an application service provider or a software-as-a-service vendor.

Where will the application originate ?

The organization can use prewritten applications that can be open-source softwares or proprietary softwares purchased from vendors. The open-source applications or proprietary softwares can also be customized by acquiring license to do so. Further, the organization will have to take a decision on whether partial or full customization that needs to be done, should be done in-house or outsourced to a third party solution provider.

- In a gist, the feasible acquisition methods for an organization are:
 - o Purchase a prewritten application: Standard packaged solutions available in the market can be purchased by the organization. This option is time-saving and most cost-effective and all standard features required are available in the software.
 - o Customize a prewritten application: If license for customizing the prewritten application from the vendor is available, then modifying the application is also a good option. But customizing very complex softwares can be cumbersome.
 - o Lease the application: If purchasing a software is too expensive, the organization can go for leasing the softwares. Especially for small to medium sized organizations who cannot afford such huge IT investments can go for this option.
 - o Application service providers and Software-as-a-service vendors: An **application service provider (ASP)** is an agent or a vendor who assembles the software needed by enterprises and then packages it with services such as development, operations, and maintenance. The customer then accesses these applications via the Internet.

Software-as-a-service (SaaS) is a method of delivering software in which a vendor hosts the applications and provides them as a service to customers over a network, typically the Internet.

In both the cases, the organization will not own the software instead they will subscribe for a particular service from the service provider and pay as per their usage. The services are shared by multiple customers and hence it is quite cheaper.

- o **Use open-source software:** Using open-source softwares is another economical solution. Organizations can get hold of a license to implement an open-source software product and either use it as it is, customize it, or develop applications with it.
- o **Use outsourcing :** Acquiring IT solutions from outside contractors or external organizations is called **outsourcing**. Organizations can use outsourcing in many situations. For example, they might want to try and test new IT technologies without making a large up-front

investment or outsourcing might also be used because the external organization has an expertise in providing that service.

- o **Employ custom development :** Organizations can also opt to custom-build an application from scratch. Development can be carried out in-house or can be outsourced. Although this approach is time consuming and costly than buying or leasing but it will best satisfy all the organizational needs. While going for custom development basic system development lifecycle(SDLC) is essential. The next section focuses on various system development life cycle models.

6.5 VARIOUS SYSTEM DEVELOPMENT LIFE CYCLE MODELS

> The Traditional Systems Development Life Cycle(SDLC)

- o The traditional systems development life cycle is the basic development methodology used by organizations for large-scale IT projects.
- o The SDLC consists of a systematic and sequential set of steps to develop quality software products. The basic SDLC is depicted in Fig. 6.5.1.

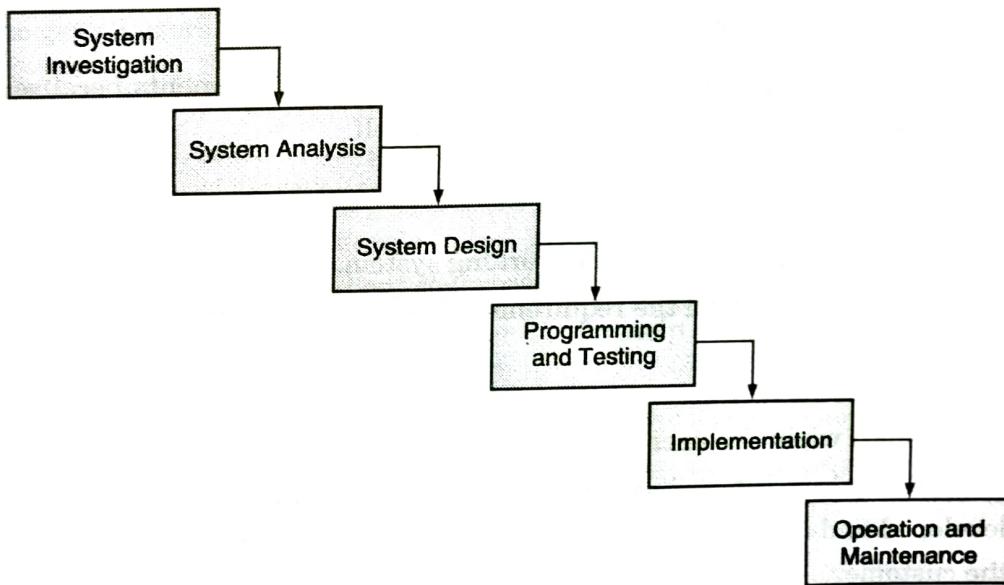


Fig. 6.5.1 : Traditional system development life cycle model

- The steps are described as under:

- o **Systems investigation :** This step involves basic understanding of the business problem to be solved, what technologies would be needed to solve the problem, study of whether the solution is actually feasible.
- o **Systems analysis :** In systems analysis phase, a complete analysis of business problem that needs to be solved with the help of the proposed information system is done. A clear understanding and specification of the software requirements is the aim of this phase.

- **Systems design** : Systems design helps in creating a blueprint of the solution. The technical specifications such as system inputs, outputs, user interfaces, hardware, software, databases, and how they are integrated together to form the software architecture, are represented in the system design phase.
- **Programming and testing** : Programming involves translating the design specifications into machine readable form. Actual coding in specified programming language is done.
- **Implementation:** Also known as deployment involves the switch over from old computer systems to the newly implemented one. Making the necessary organizational changes to get the new system accommodated is a part of deployment.
- **Operation and maintenance:** Once the new system is in operation, continuous monitoring whether the system is behaving as desired in actual environment, debugging defects if encountered are all part of maintenance phase. Any future updatations or additional functionalities needed, are done in the maintenance phase.

Advantages

1. It strictly follows a systematic, disciplined and structured approach to development.
2. Enforces quality by maintaining standards.
3. Very less chances of missing important issues in collecting user requirements because this model expects all the requirements to be stated in the beginning itself.

Disadvantages

1. Too lengthy and takes too long to get the actual working system.
2. Users might find it difficult to state all the requirements in the beginning.

Prototyping

- This approach can be used when the user is not clear about the requirements.
- With the initial set of requirements, a basic model or a smaller version of the actual system called a prototype is developed and in further iterations the remaining requirements are added as per the feedback from the customer.
- The iterations will continue till the customer is completely satisfied.

Advantages

1. This model helps to make clear user requirements in every iteration.
2. Promotes involvement of customer.
3. Promotes communication between developers and users.
4. Working model can be seen at early stages.

☛ Disadvantages

1. In a hurry to develop the prototype quality compromises could be done.
2. For large number of users this model may not be practically possible.

➤ Joint Application Design

- Joint application design (JAD) is a group discussion technique for collecting requirements and creating system designs.
- JAD involves a group meeting which is attended by the analysts, members from development team and all of the users.
- During this meeting, all the attendees sit, discuss and agree upon the systems requirements.

☛ Advantages

1. Involvement of many users in the development process.
2. Greater user support for new system.
3. Improved quality of the new system.

☛ Disadvantages

1. Difficult to get all users to attend JAD meeting and all attendees to come to common conclusion.

➤ Rapid Application Development

- This method involves developing the system rapidly in short duration of time of near about 60-90 days.
- To achieve rapid application development, problem is modularized, multiple teams are formed and the development is carried out concurrently.
- Also, maximum use of reusable components can help save time of developing software from scratch.
- At the end, all the modules are integrated together and complete system is built.

☛ Advantages

1. Can speed up systems development.
2. Users intensively involved from the start.

☛ Disadvantages

1. This model is not useful if the problem cannot be properly modularized.
2. Lot of human resources are required to form sufficient teams to work in parallel.

➤ Agile Development

- Currently, many organizations are moving from the traditional system development to agile development.



- Agile is more rapid, adaptive and collaborative approach to software development.
- Agile is also a swift development methodology where the product functionalities are delivered in iterations and the duration of iterations is kept very short, usually in weeks.
- This methodology requires frequent user communication to better understand the user needs.
- The software developed need not include every possible feature that the user will require. Rather, it must meet only the user's more important and immediate needs. It can be updated later to introduce additional functions as they become necessary.
- One approach to agile development is the **scrum approach**.
- Scrum model agrees upon the fact that a development problem cannot be completely understood or stated in the beginning itself.
- Scrum focuses on maximizing the development team's ability to deliver iterations quickly.
- In the Scrum model certain roles have been defined like scrum master who manages the entire scrum process, product owner who could be the business user or owner, team of usually about seven people who perform the entire analysis, design, development and testing.
- The entire scrum process is divided into **sprints**. Size of a sprint is usually 2 to 4 weeks.
- There is a product backlog that contains prioritized set of requirements to be completed. In every sprint requirements to be achieved are extracted from this backlog and carried forward for completion.
- During the execution of a sprint, the sprint backlog cannot be changed until the sprint is completed.
- The sprints should be completed on time and after every sprint the team demonstrates the work completed to the users for feedback.
- The changes expected or incomplete requirements again get added into the product backlog. This is how agile development methodology works in faster iterations.

Advantages

1. Rapid and continuous development.
2. Customer communication and involvement is high.
3. As iterations are kept short, problems are identified and rectified at a very early stage.
4. Close interaction between development team and users.

Disadvantages

1. It is not useful for small development projects.
2. There is a lack of concentration on necessary designing and documentation.
3. Cost of agile methodology is comparatively higher.

M 6.6 MULTIPLE CHOICE QUESTIONS

- Q.1** Which of the following is not an advantage of the buy option for acquiring IS applications? (Jan 2020, 2 Marks)
 (a) Few types of off-the-shelf software are available, thus limiting confusion.
 (b) The software can be tried out.
 (c) The buy option saves time.
 (d) The company will know what it is getting. ✓Ans. : (a)
- Q.2** Which of the following systems acquisition methods saves the company's time, enables the company to select software that has been used for similar problems in other organizations, and allows the company to try out the software? (Jan 2020 2 Marks)
 (a) Systems development life cycle (b) Prototyping
 (c) End-user development (d) Buy option ✓Ans. : (d)
- Q.3** _____ is a method of delivering software in which a vendor hosts the applications and customers access these applications over the Internet. (Jan 2020 2 Marks)
 (a) Software-as-a-Service (b) Prototyping
 (c) Leasing the application (d) Service-oriented architecture ✓Ans. : (a)
- Q.4** A _____ is any business event that generates data worthy of being captured and stored in a database.
 (a) transaction (b) process (c) functional area (d) contract ✓Ans. : (a)
- Q.5** A _____ deals with the monitoring, collection, storage, and processing of data generated from the organization's fundamental business transactions.
 (a) transaction processing system (b) Prototyping system
 (c) enterprise application integration system (d) analytical processing system ✓Ans. : (a)
- Q.6** Which of the following is NOT a specific type of transaction processing system?
 (a) Order processing system (b) Purchasing system
 (c) Performance evaluation system (d) Accounting system ✓Ans. : (c)
- Q.7** Which of the following is NOT a typical activity of a Transaction Processing System?
 (a) Data analysis (b) Data collection
 (c) Data editing (d) Data storage ✓Ans. : (a)
- Q.8** Which of these is not a type of Functional Area Information System?
 (a) Enterprise Resource Planning system
 (b) Finance and accounting management system
 (c) Human Resource management System
 (d) Sales and marketing management System ✓Ans. : (a)



- Q.20** In _____ approach the organization implements a customized ERP system built by adding functionalities specific to the business organization.
- (a) Vanilla (b) Jellybean (c) Best of breed (d) Custom ✓Ans. : (d)
- Q.21** _____ approach combines benefits of vanilla and custom approach, thereby avoiding excessive costs and risks related to complete customization.
- (a) Vanilla (b) Jellybean (c) Best of breed (d) Custom ✓Ans. : (c)
- Q.22** Cross-departmental processes are those that
- (a) interfere with each other's processes.
 - (b) can create confusion while execution of departmental work.
 - (c) have their origin in one department and end up into some other department.
 - (d) no such processes actually exist.
- ✓Ans. : (c)
- Q.23** Three basic types of reports closely associated with ERP and FAIS are:
- (a) Drill-down, Key indicator, Comparative (b) Exception, Key indicator, Adhoc
 (c) Key indicator, comparative, Routine (d) Routine, Adhoc, Exception ✓Ans. : (d)
- Q.24** _____ reports are those which are generated at scheduled intervals
- (a) Routine (b) Exception (c) Key indicator (d) Adhoc ✓Ans. : (a)
- Q.25** _____ reports are those which are not routine but out-of-the-routine reports, like production report of last three days and not the entire week.
- (a) Routine (b) Exception (c) Key indicator (d) Adhoc ✓Ans. : (d)
- Q.26** If a manager might want the sales data by city and then by a particular area within that city and then further in detail a particular store in that area. Which report can better display this information?
- (a) Routine (b) Exception (c) Key indicator (d) Drill down ✓Ans. : (d)
- Q.27** _____ reports summarize the performance of critical activities.
- (a) Routine (b) Exception (c) Key indicator (d) Drill down ✓Ans. : (c)
- Q.28** _____ reports help to compare the performances of different business units or of a single unit at different times.
- (a) Routine (b) Exception (c) Key indicator (d) Comparative ✓Ans. : (d)
- Q.29** _____ reports are generated only when something happening in the on-going business process falls outside certain threshold standards.
- (a) Routine (b) Exception (c) Key indicator (d) Comparative ✓Ans. : (b)
- Q.30** Adhoc reports are classified as
- (a) Drill-down, Key indicator, Comparative (b) Exception, Key indicator, Comparative
 (c) Key indicator, comparative, Routine (d) Routine, Drill down, Exception ✓Ans. : (a)

Q.31 The organization's strategic plan aims to

- (a) maximize the long term profitability of the organization.
- (b) identify the firm's overall mission
- (c) identify the goals that follow from the mission and the steps to reach those goals.
- (d) All of above

✓Ans. : (d)

Q.32 An analysis of the costs that will be incurred and benefits that will be achieved by implementing the IT solution is termed as

- | | |
|----------------------------|---------------------------|
| (a) Impact analysis | (b) Cost-Benefit analysis |
| (c) Profitability Analysis | (d) Profit-Loss Analysis |

✓Ans. : (b)

Q.33 Variable Costs do not include

- (a) maintenance cost (b) development cost (c) electricity cost (d) internet cost

✓Ans. : (b)

Q.34 Fixed Costs include

- | | |
|----------------------|------------------------|
| (a) maintenance cost | (b) electricity cost |
| (c) internet cost | (d) salary of employee |

✓Ans. : (d)

Q.35 Tangible Benefits include

- | | |
|----------------------|---------------------|
| (a) profits gained | (b) sales increased |
| (c) errors minimized | (d) All of above |

✓Ans. : (d)

Q.36 Which of these is an example of Intangible benefit?

- | | |
|---------------------------|----------------------|
| (a) profits gained | (b) sales increased |
| (c) customer satisfaction | (d) errors minimized |

✓Ans. : (c)

Q.37 Which of these is not amongst the Cost-Benefit Analysis methods?

- | | |
|-----------------------|--------------------------|
| (a) Swot analysis | (b) Return on Investment |
| (c) Net Present Value | (d) Break even Analysis |

✓Ans. : (a)

Q.38 What are the primary business benefits of an ERP system?

- (a) Sales forecasts, sales strategies, and marketing campaigns
- (b) Market demand, resource and capacity constraints, and real-time scheduling
- (c) Forecasting, planning, purchasing, material management, warehousing, inventory, and distribution
- (d) All of the above

✓Ans. : (c)



- Q.39** _____ is a method of delivering software in which a vendor hosts the applications and provides them as a service to customers over a network, typically the Internet
- System-as-a-service.
 - Platform-as-a-service
 - Infrastructure-as-a-service
 - Software-as-a-service
- Q.40** Acquiring IT solutions from outside contractors or external organizations is called _____
- Insourcing
 - Outsourcing
 - Contracting
 - Offtracking
- Q.41** Which of these is not a system development model.
- SDLC
 - COCOMO
 - Prototyping
 - RAD
- Q.42** One approach to agile development is
- scrub development.
 - adaptive development
 - rapid development
 - scrum development
- Q.43** Which model needs that the requirements be stated clearly well in advance?
- Rapid Application Development model
 - Traditional system development life cycle model
 - Prototyping model
 - Agile model
- Q.44** Which model restricts the development to 60-90 days?
- Fast Application Development Model
 - Swift Application Development Model
 - Quick Application Development Model.
 - Rapid Application Development Model
- Q.45** Smaller working version of actual system is called
- prototype
 - stereotype
 - mock model
 - increment
- Q.46** Duration of a sprint is usually
- 8-12 weeks
 - one year
 - 6-12 weeks
 - 2-4 weeks
- Q.47** Web ERP is suitable for _____. .
- Both small and big organisations
 - Only big organisations
 - Medium scale organisations
 - Only small organisations.
- Q.48** What is at the heart of any ERP system?
- Information
 - Employees
 - Customers
 - Database



Q.49 Which of the following is not a myth about ERP systems

- (a) ERP means more work and procedure
- (b) ERP makes many employees redundant
- (c) ERP integrates and automates organization processes
- (d) ERP is sole responsibility of management

✓Ans. : (c)

Q.50 An effective _____ should result in a high quality system that meets customer expectations, reaches completion within time and cost evaluations, and works effectively and efficiently in the current and planned Information Technology infrastructure.

- (a) Historical cycle (b) System Development Life cycle
- (c) Machine cycle (d) Execution cycle

✓Ans. : (b)

Q.51 SDLC doesn't include the following activity

- (a) design (b) evaluation (c) testing (d) analysis

✓Ans. : (b)

Chapter Ends...

