Information Strategy

Tutorial -1-Answer Guide

Use the following guidance to build the answer

Lecture-1- Introduction to Information Systems – Questions

1.

a. Define the terms “Data” and “Information”.

Data- Raw or unorganized facts (such as letters, numbers, or symbols)
Information -Processed data.
Which is :
(1) Accurate and timely.
(2) Specific and organized for a purpose.
(3) Presented within a context that gives it meaning and relevance.
(4) Can lead to an increase in understanding and decrease in uncertainty

Eg:
Data – thermometer readings of temperature taken every hour:
16.0, 17.0, 16.0, 18.5, 17.0,15.5….

Information – today’s highest: 18.5
today’s lowest: 15.5

b. List down the types of data that can be used to information system.

Alphanumeric data, Numeric data ,Image data, Audio data, Video data , ect…

c. Describe Characteristics and importance of Valuable Information

- Accurate
- Complete
- Economical
- Flexible
- Reliable
- Relevant
- Simple
- Timely
- Verifiable
- Accessible
- Secure

(Explain the importance of few of these characters)

2.

a. Discuss the importance of an Information System for an organization.

- To control the creation and growth of records
- To reduce operating costs
- To improve efficiency and productivity
- To minimize risks
- To safeguard vital information
- To support better management decision making
- To preserve the corporate memory

b. Describe following System types

i. Simple vs. complex
Basic operations of the organization vs entire operations of the organization

ii. Open vs. closed
The system can go for modifications vs system is not for modification

iii. Stable vs. dynamic
The system it's not updating vs the system is updating rapidly

iv. Adaptive vs. non-adaptive
The system has a way of coping with changes vs the non-adaptive system has no way of coping with changes

v. Permanent vs. temporary
The system is permanent solution for a long time vs a temporary solution for a short time

c. Define the terms "System Variables" and "System Parameters".

System variable
A quantity or item that can be controlled by the decision maker
e.g: the price a company charges for a product

System parameter
A value or quantity that cannot be controlled by the decision maker
e.g: cost of a raw material

3.

a. Define the terms “System Variables” and “System Parameters” of an information system.

b. Discuss the advantages of a Computerized Systems over a Manual System.

Computerized	Paper-Based
Can hold a vast amount of data	Limited by physical storage space available
Very fast to find a specific record	Can take a while to manually search through all of the records
Can easily search for a specific criteria e.g. "all of the people who live in Colombo"	Difficult to search for a specific criteria; every record would have to be manually looked at.
Can be used to analyze the data e.g. 'most popular selling item'	Very difficult to analyze the data
Data can be sorted into ascending or descending order on multiple criteria	Difficult to sort data on more than one criterion.
Can easily update or amend a record e.g. customer's address after moving to a new place	Changes have to be done manually. Records can look messy if scribbled out.
Records are stored safely, they are available when needed	Records can be lost or misfiled making it hard to find them
The database can be kept secure by use of passwords	The only security would be locking up the records.
Easy to make a back-up in case of	Difficult to make a backup because every

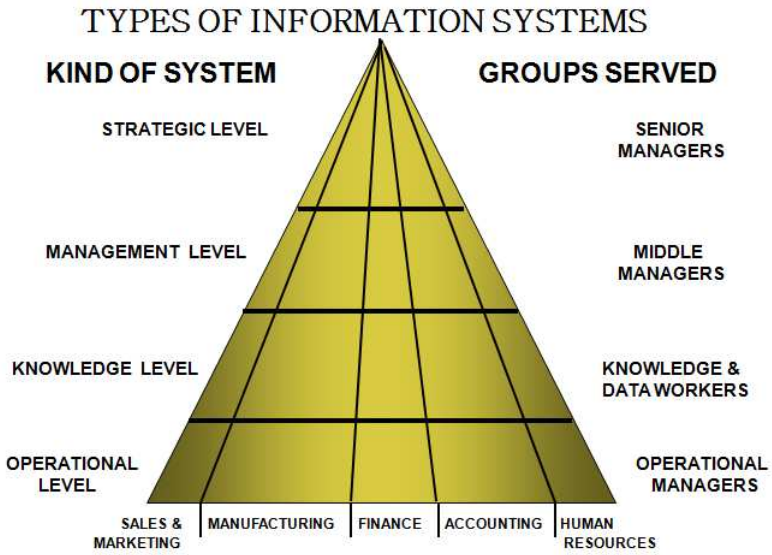
Computerized	Paper-Based
data loss	page/card would have to be re-written or photocopied. This means extra storage space is needed.

c. List five main components of a Computer-based Information Systems and explain one of them in details.
Hardware
Software
Databases
Network/ Telecommunications
People / Procedures
(Explain one of these)

Lecture-2- The Strategic Role of Information Systems – Questions

4.

a. Describe the "organizational pyramid" with respect to the information System requirement of an organization.



The organizational pyramid for IS(Information System) represents the IS needs for an organization based on the available managerial levels in the organization.

As an example the above figure shows the available managerial levels in the organization horizontally and the available business functions vertically. Intersection of a managerial level and a business function creates a need of a separate IS. Also the surface area of the pyramid shows the volume of data and number of users in the IS. When you move up in the pyramid the surface area gradually decreases and it shows the need of summative date at the top for few numbers of systems users.

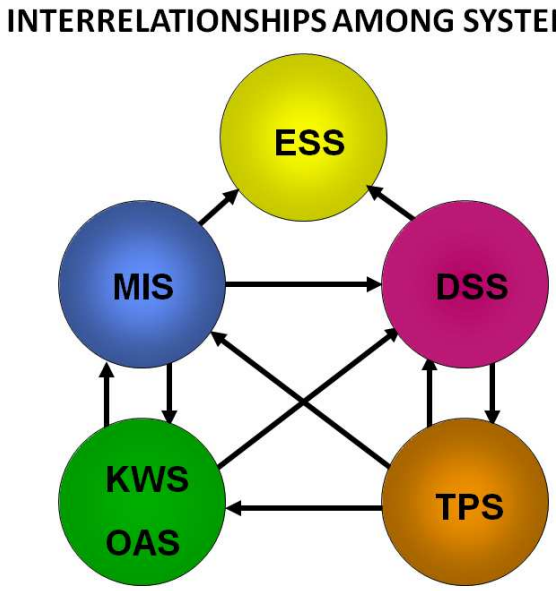
b. List the six main type of information systems and its usage.

   i. EXECUTIVE SUPPORT SYSTEMS (ESS)
   ii. DECISION SUPPORT SYSTEMS (DSS)
   iii. MANAGEMENT INFORMATION SYSTEMS (MIS)
   iv. KNOWLEDGE WORK SYSTEMS (KWS)
   v. OFFICE AUTOMATION SYSTEMS (OAS)
   vi. TRANSACTION PROCESSING SYSTEMS (TPS)
   (Explain the usage with respect to the managerial levels of the organization)

c. Discuss the link between above six main types of information systems.

All these systems work together to fulfill organization IS needs. The main link between the systems in simply would be :

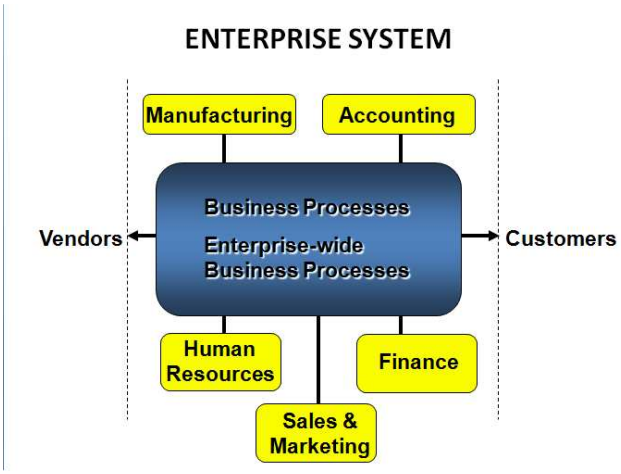
The output of the bottom-line systems would be the input for the next level of the systems. This goes till the top.



5.

a. Define and describe ERP system.

Enterprise Resource Planning systems(ERP) are software systems for businesses management encompassing modules supporting functional areas such as Manufacturing , Accounting, Finance, Sales & Marketing, Human Resource, ect.



ERP is an integrated overall SW solution for a business organization and it's not only covers all the internal functions of the organization but also it cowers the Suppliers, Customers of the organization and concentrate of the knowledge management of the organization as well as ebusiness portal of the organization.

ERP is a commodity -- product in the form of software. SAP, Oracle Applications, PeopleSoft, JD Edwards, Greatplains etc. are world's leading ERP packages. The market leader is "SAP".

b. Discuss the benefits and challenges of implementing ERP system.

BENEFITS OF ENTERPRISE SYSTEMS

- FIRM STRUCTURE & ORGANIZATION: One organization
- MANAGEMENT: Firm wide knowledge-based management processes
- TECHNOLOGY: Unified platform
- BUSINESS: More efficient operations & customer-driven business processes

CHALLENGES OF ENTERPRISE SYSTEMS

- Daunting implementation
- High up front costs & future benefits
- Inflexibility
- Hard to realize strategic value

c. Discuss the main reasons of for Implementing ERP system.

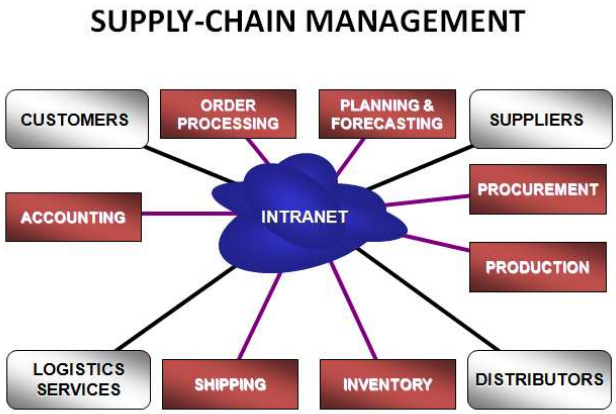
- Need for common platform
- Process improvement.
- Data visibility that could be used to improve operating decisions.
- Operation cost reductions.
- Increased customer responsiveness.
- Improved strategic decision making
- Personal Improvement

d. Describe followings with respect to an ERP system

i. Supply Chain Management

Supply chain management is the streamlining of a business' supply-side activities to maximize customer value and to gain a competitive advantage in the marketplace.

Supply chain management (SCM) represents an effort by suppliers to develop and implement supply chains that are as efficient and economical as possible.



ii. Customer Relationship Management

Customer relationship management (CRM) refers to the practices, strategies and technologies that companies use to manage record and evaluate customer interactions in order to drive sales growth by deepening and enriching relationships with their customer bases. The CRM strategy allows you to following:

- Understand the customer
- Retain customers through better customer experience
- Attract new customers
- Win new clients and contracts

- Increase profitably
- Decrease customer management costs

iii. Knowledge Management

Knowledge management is the process of capturing, distributing, and effectively using knowledge.

So it's a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets.

These assets may include databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers.

- Explicit knowledge: information or knowledge that is set out in tangible form. (this is the knowledge that is written down and is accessible in one way or another.)
- Implicit knowledge: information or knowledge that is not set out in tangible form but could be made explicit.(this is knowledge that isn't written down yet but is largely procedural and not dependent on an individual's context)
- Tacit knowledge: information or knowledge that one would have extreme difficulty operationally setting out in tangible form.(this is the knowledge in our heads that is made up from experience and personal contexts. It's not written down and is hard to articulate)

6.

a. What is known as Ecommerce? List four benefits of using Ecommerce for customers?

Electronic commerce describes the buying and selling of products, services, and information via computer networks including the Internet.

Benefits of using Ecommerce for customers

- 24x7 support. Customer can do transactions for the product or enquiry about any product/services provided by a company any time, any where from any location. Here 24x7 refers to 24 hours of each seven days of a week.

- E-Commerce application provides user more options and quicker delivery of products.

- E-Commerce application provides user more options to compare and select the cheaper and better option.
- A customer can put review comments about a product and can see what others are buying or see the review comments of other customers before making a final buy.
- E-Commerce provides option of virtual auctions.
- Readily available information. A customer can see the relevant detailed information within seconds rather than waiting for days or weeks.
- E-Commerce increases competition among the organizations and as result organizations provides substantial discounts to customers.

b. Explain the concept of 'Electronic Commerce Terms' using an example.

i. Business-to-business (B2B)

Website following B2B business model sells its product to an intermediate buyer who then sells the product to the final customer. As an example, a wholesaler places an order from a company's website and after receiving the consignment, sells the end product to final customer who comes to buy the product at wholesaler's retail outlet.

(eg: Toyota- Japan and Toyota- Sri Lanka)

ii. Business-to-consumer (B2C)

Website following B2C business model sells its product directly to a customer. A customer can view products shown on the website of business organization. The customer can choose a product and order the same. Website will send a notification to the business organization via email and organization will dispatch the product/goods to the customer.

(eg: Keells Super and it's online Customers)

iii. Consumer-to-Consumer (C2C)

Website following C2C business model helps consumer to sell their assets like residential property, cars, motorcycles etc. or rent a room by publishing their information on the website. Website may or may not charge the consumer for its services. Another consumer may opt to buy the product of the first customer by viewing the post/advertisement on the website.

(eg: Auto Lanka Online Car Sale)

c. List four electronic payment methods.

- CARD PAYMENTS
  Credit or debit card
- ALTERNATIVE PAYMENTS
  Online Bank Transfers, Direct Debits, Invoices, Mobile Carrier Billings, Offline Cash Payments and Crypto-currencies
- DIGITAL WALLET PAYMENTS
  eCash, eWallet

(Any four from above)

d. Explain Pure and Partial Ecommerce using examples.

- Pure vs. Partial EC: based on the degree of digitization of
  - **Product**
  - **Process**
  - **Delivery agent**
- Pure EC: all dimensions are digital
- Partial EC: all other possibilities include a mix of digital and physical dimensions