MIS chapters 11-14

Exam june 13

Chapter 11

Enterprise systems companies integrate info across operations company wide

Interorganizational systems (IOS) Systems that communicate across organizational boundaries

Porter's value chain

Support = infrastructure, HR, Tech Dev, Procurement

Primary = in-logistics, operations & manufacturing, out-logistics, marketing & sales, customer service

Enterprise System Evolution system types

Standalone system ----------> --> --> legacy systems (internal focus)

Integrated system (intra-org) --> --> --> Enterprise Resource Planning (internal focus)

Integrated system (inter-org) ----> ------> **Supply Chain Management** <<---- [external focus] ---->> CRM

Enterprise System ---------- integrated system

Inbound logistics -----> operations -----> outbound logistics [business activity]

Data warehouse [Order, inventory, invoice (info)]

Integrated systems = info stored in a single data repository and can be accessed and updated by all functional systems

Enterprise Resource Planning = integrates system, collect & process, manage resources, info and functions (hardware software procedures input from all functional areas)

ERP done right

Benefits = better availability , accuracy, timeliness, response time, customer/employee satisfaction, planning & scheduling, supply relationship, less inventory/labour costs

Supply Chain Management

SCM = integrated network organization (suppliers, transporters & brokers) deliver goods and services to customers. Coordinate procuring materials, transforming materials into intermediate products & distribute finished products/services

Manufacturing = Product flow, Info (orders) flow, Finances (credit payment) flow

4 key decisions in SCM = Location | Inventory | Production | Transportation

EDI + Internet (improves purchase/procurement, inventory, transportation, orders, customer service, production scheduling)

E marketplaces

3rd party exchange = buyers/sellers trade online

Benefits = better efficiency & effectiveness, establish new trading partnerships, single platform for prices, availability and stock levels available to all

E- distributor = marketplace owned & operated by 3rd party providing electronic product (maintenance, repair, operations) *horizontal market*

Online auctions - brokerage business model - reverse auctions = seller bid for products

CPFR collaborative plan forecast & replenish = inventory & sales data is shared supply chain

Customer relations management CRM

CRM = tracks & organizes customers
Goal = improve services & marketing using the customer data, long term relationship
Improve products/services/customer retention/profitable customers/ demographics

CRM system = sales|marketing automation/ order process/ customer support

Personalization tech

Personalization = customer needs/ relationship/ better profits

Customization = customers modify from standard offering

Collaborative filtering = search for specific info/patterns, using input from data sources

Knowledge Management

Knowledge = asset, info & data, repository, tool, technology

KMS organization should have free exchange of ideas, improve customer response/revenue by less delivery time, reward staff for their knowledge

Chapter 12

Management Support Systems

MSS = info to support types of decisions

Managers make decisions

Types of decisions in organizations

- `Structured` = operating procedures, programmable tasks
- Semi-structured = info retrieval, analytics, info system tech
- Unstructured = unique 1x decisions (no operating procedure)

Decision making process - Herbert Simon

Intelligence = examine enviro for decisions, data collected & processed

Design = objective - def criteria for decision & alternatives (info tech not part of decisions)

Choice = best & most effective course of action, analyze each alternative + relationship

Implementation = plan to action with alternatives selected, get resources for plan

Decision support systems DSS

Interactive info system (hardware software data math & stats)

Requirements = interactive, human element, internal and external data, use math & stats models, support decision makers on all levels

DSS capabilities = ***what if*** analysis, goal seeking, analysis, report analysis

Costs & benefits = more alternatives evaluated, fast response, cost & time savings

Executive Info Systems

Interactive info system with easy access & use to internal/ external data

Data should collect data on organizations “critical success factors”

Reasons for using EIS = better manager productivity, info into formats for trends

Group support systems

Helps groups (CCC) communicate, collaborate & coordinates

Computer + communication tech formulate process implement decision making tasks

Use = review panels, board meetings, task forces, decision making

Groupware = database access, email, online chat, online scheduling, workflow

Pros = reduced costs + stress, more time to solve

Cons = lack of human touch, unnecessary meeting, security problems

Chapter 13

Intelligent Info systems

`Artificial Intelligence (AI)` = simulate & reproduce human thought behaviour

Robotics = simple repetitive tasks

Expert systems = mimic human thoughts & expertise to solve problems

- Components: factual *heuristic* meta knowledge base system
- Use: Airlines, forensics, banking, food, security, government
- Criteria : knowledge in rules form, human tasks, subject domain is limited
- non-use criteria: few/too many rules, too many problems, solution better by humans

Intelligent agents === bots

Software capable of reasoning & following rule based processes

personal Shopping info (web forms), data mining & surveillance agents

Fuzzy logic designed to help computers simulate vagueness & uncertainty (database management, software development)

`Artificial Neural Networks` learn and perform tasks that are difficult with regular computers, use patterns, models of input/output

Genetic algorithms to search and find problem solutions (mutation, crossover)

Natural Language Processing is interfaces to databases, machine translation

Chapter 14

Push & Pull tech

Pull technology user states a need *before* getting info, website use

Push (webcasting) web server delivers info to subscribed users

Application Service Provider = access to software or service for a fee (SaaS)

Virtual reality

= 3d image illusions of real world environment

Types of VR

Egocentric environment = total immersion, Head Mounted Display

Exocentric environment = data in 3d, view only onscreen graphics

Radio Frequency Identification --- RFID

Small electronic device with a small chip, unique ID for item, can be read 20 ft away
2 types: Passive = no battery, 10 yr lifespan Active = more reliable

Networking

Grid computing = connect different computers to solve problems (node), better reliability, parallel processing

Cloud computing Nanotechnology