Introduction to Management Information Systems

Introduction to Business Information Systems

Foundations of Information Systems

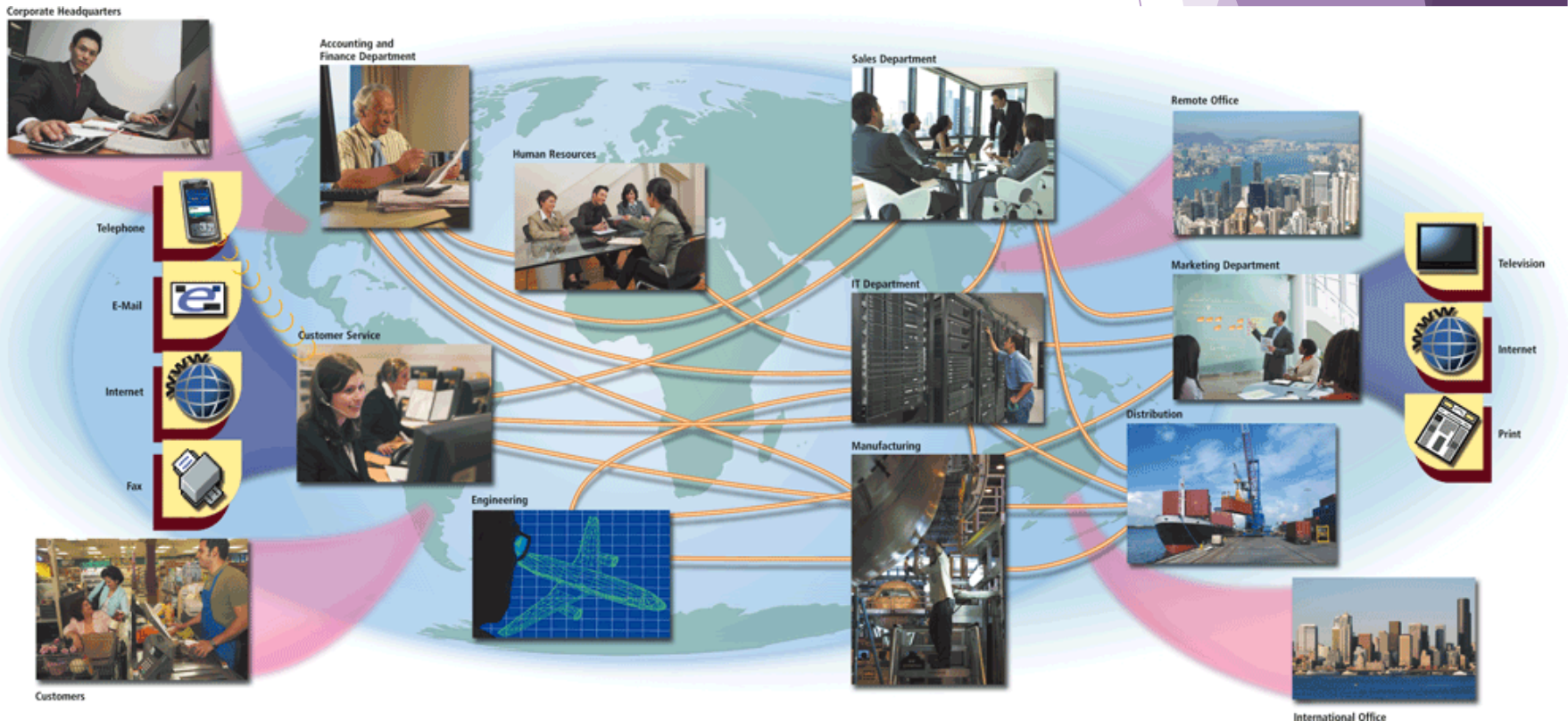
Enterprise Information Systems

What Is Enterprise Computing?

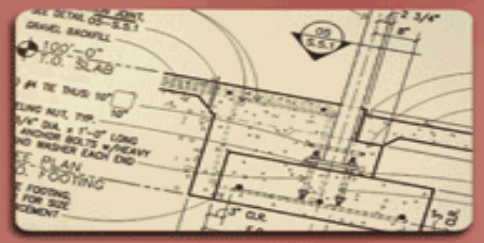
involves the use of computers in networks,

may have a variety of different operating systems, protocols,

and network architectures



documents



drawings

multimedia

data

information from other internal sources

process
categorize
index
store

information from external sources such as news and journals

enterprise portal software

print

fax

financial reports

legal documents

e-mail, IM, and text messages

wireless

resumes and job requests

financial information

orders

systems

HR

sales

executives

Enterprise information

- information gathered in the ongoing operations of an enterprise-sized organization
  - Business intelligence
  - Business process management
  - Business process automation

Managers coordinate resources

Information Systems in the Enterprise

Integrated Information Systems

Customer relationship management manages information about customers, interactions with customers, past purchases, and interests	**Enterprise resource planning** provides centralized, integrated software to help manage and coordinate ongoing activities	**Content management systems** are information systems that combine databases, software, and procedures

Enterprise Information Systems

Information Systems in the Enterprise

Enterprise resource planning provides centralized, integrated software to help manage and coordinate ongoing activities

Information Systems in the Enterprise

Customer relationship management manages information about customers, interactions with customers, past purchases, and interests

supply chain management (SCM)

The coordination of all supply activities of an organisation from its suppliers and partners to its customers.

supply relationship management (SRM)

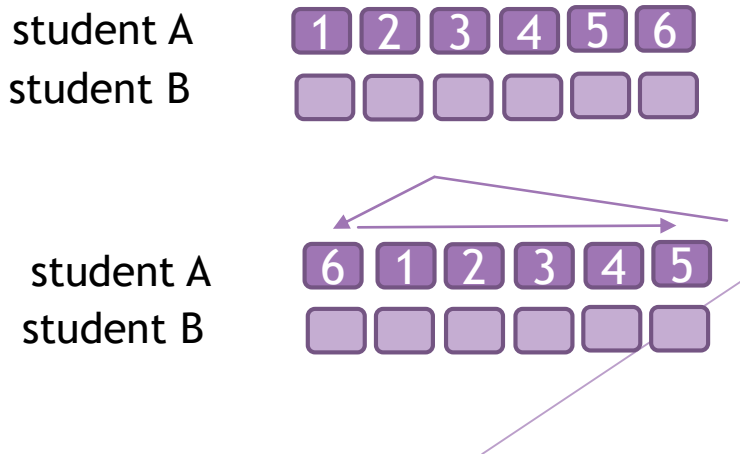
supply relationship management (SRM) refers to all activities involved with obtaining items from a supplier

Enterprise Systems activity

instructions

Each student

1. take 3 slips (1 ERP, 1 CRM, and 1 SCM or SRM)
2. read & understand the information on the slip
3. explain the information (in pairs, 2 minutes)
   - change seat (student A)
   - repeat



Enterprise Resource Planning (ERP)

Enterprise Resource Planning (ERP)

ERP systems

- Departmental IS are stand-alone systems
- They do not communicate
- integrate the department IS – common database
- Increase productivity & efficiency

Enterprise resource planning

Enterprise resource planning (ERP) is a process used by companies to manage and integrate the important parts of their businesses.

- help implement resource planning
- integrating all of the processes
- in a single system

Enterprise resource planning

An ERP software system can integrate:

- planning,
- purchasing inventory,
- sales,
- marketing,
- finance,
- human resources,
- and more

Enterprise resource planning

- ERP solutions have evolved
- many are now typically web-based applications
- can be access remotely
- often integrates accounts payable, stock control systems, order-monitoring systems, and customer databases

Enterprise resource planning

Benefits include :

- reducing costs, and improving operations
- the free flow of communication between business areas,
- a single source of information, and
- accurate, real-time data reporting
- allow the different departments to communicate and share information
- collects information about the activity and state of different divisions, making this information available to other parts
- can eliminate costly duplicate and incompatible technology

Enterprise resource planning

- Integrating and automating business processes
  - eliminates redundancies,
  - improves accuracy, and
  - improves productivity
- Departments with interconnected processes can now synchronize work
  - to achieve faster and better outcomes
- Accurate and complete reporting help companies adequately
  - plan, budget,
  - forecast, and communicate

Enterprise resource planning

- access information quickly
- needed for clients, vendors, and business partners,
- contributes to
  - improved customer and
  - employee satisfaction,
  - quicker response rates, and
  - increased accuracy rates.
- Associated costs often decrease as the company operates more efficiently

Enterprise resource planning

An ERP system can be ineffective if a company doesn't implement it carefully.

Failure occurs when there is a company's reluctance to abandon old working processes

ERP – Q & A

What Is an ERP and How Does It Work?

Enterprise resource planning (ERP) consists of technologies and systems companies use to manage and integrate their core business processes.

ERP software offers single system solutions that integrate processes across the business.

Such applications allow for users to interact within a single interface, share information, and enable cross-functional collaboration.

ERP – Q & A

What Is an Example of an ERP?

Internet of things (IoT), Internet or cloud-based applications are on the rise.

more companies are moving away from on-site ERP systems to adopt the more agile, cloud-based ERP system, managed and maintained by the host or vendor.

Oracle, offers several cloud-based ERP products used by many household brands, such as FedEx, Blue Cross, and Blue Shield.

Microsoft Dynamics includes ERP

ERP – Q & A

What Are the Benefits of an ERP?

An ERP promotes the free flow of communication across an organization and

results in increased synergies between different business areas,

increased efficiencies as processes are streamlined and

information is readily accessible to those that need it; and

reduced costs associated with outdated and ineffective technology.

Adopting an ERP may be a costly endeavor, but the return on investment (ROI) may be achieved quickly.

Most certainly, the benefits realized (e.g., increased productivity and reduced administrative costs) may far outweigh the costs to introduce an ERP.

ERP – Q & A

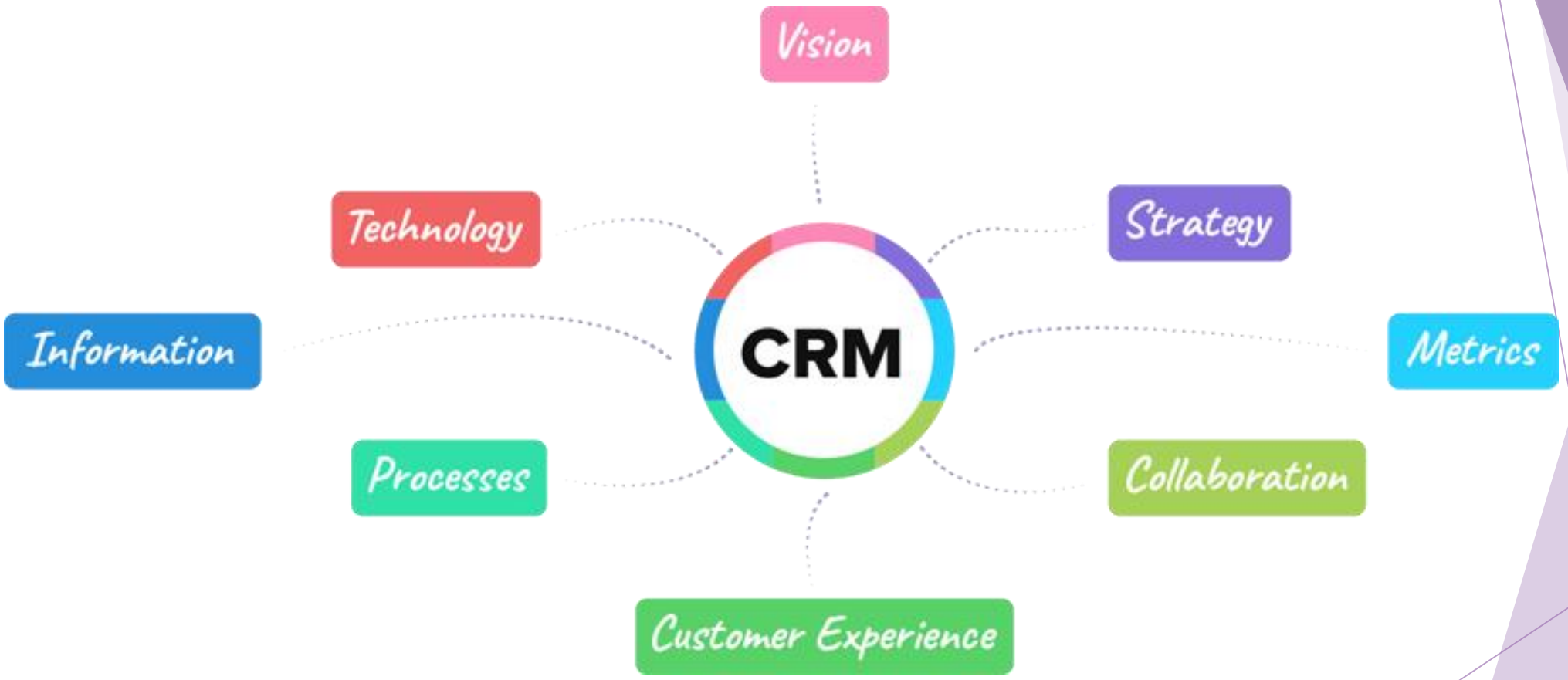
What Should an ERP System Include?

- An ERP system should be automated—to reduces errors
- flexible, allowing for modifications as the company changes or grows.
- allow users to access it from their mobile devices.
- should provide a means for productivity to be analyzed and measured.

source: https://www.investopedia.com/terms/e/erp.asp

Customer Relationship Management (CRM)

Customer relationship management



Source: Gartner research

Customer relationship management

- Customer Relationship Management (CRM) is a technology used to manage interactions with customers and potential customers.
- A CRM system helps organizations
  - build customer relationships and
  - streamline processes so they can
    - increase sales,
    - improve customer service, and
    - increase profitability.

Customer relationship management

- CRM is a strategy for managing all your company's relationships and interactions with your customers and potential customers.
- It helps you improve your profitability.
- A CRM system is a tool which helps with
  - contact management,
  - sales management,
  - workflow processes,
  - productivity
  - and more

source: https://www.salesforce.com/ap/learning-centre/crm/what-is-crm/

Customer relationship management

CRM enables you to focus on your organisation’s relationships with individual people

- customers,
- service users,
- colleagues
- or suppliers

Customer relationship management

- CRM is not just for sales
- biggest gains in productivity can come from moving beyond CRM as a sales and marketing tool and
- embedding it in your business
  - from HR to customer services and supply-chain management

Customer relationship management

- CRM system an overview of your customers
- a dashboard with
  - customer's previous history,
  - the status of their orders,
  - any outstanding customer service issues
- translates data from sales teams, customer service staff, marketers and social media monitoring into business information

CRM benefit

Identify and categorise leads

- identify and add new leads easily and quickly
- create customised documents
- sales staff can focus their attention

Increase referrals from existing customers

- understanding customers better,
- cross-selling and up-selling opportunities
- new business from existing customers
- better customer service
- Happier customers
- increase sales from customers

CRM benefit

Improve products and services

- gather information from a huge variety of sources
- more insight into how your customers feel
- what they are saying about your organization
- improve what you offer
- identify problems early
- utilize social networks

cloud-based CRM

many CRM systems are now cloud-based

costs based on number of users, can be scaled up (or down)

Cloud-based CRM offers:

- faster deployment
- Automatic software updates
- Cost-effectiveness and scalability
- ability to work from anywhere, on any device
- Increased collaboration

Supply Chain Management (SCM)

Supply chain management (SCM)

The coordination of all supply activities of an organisation from its suppliers and partners to its customers.

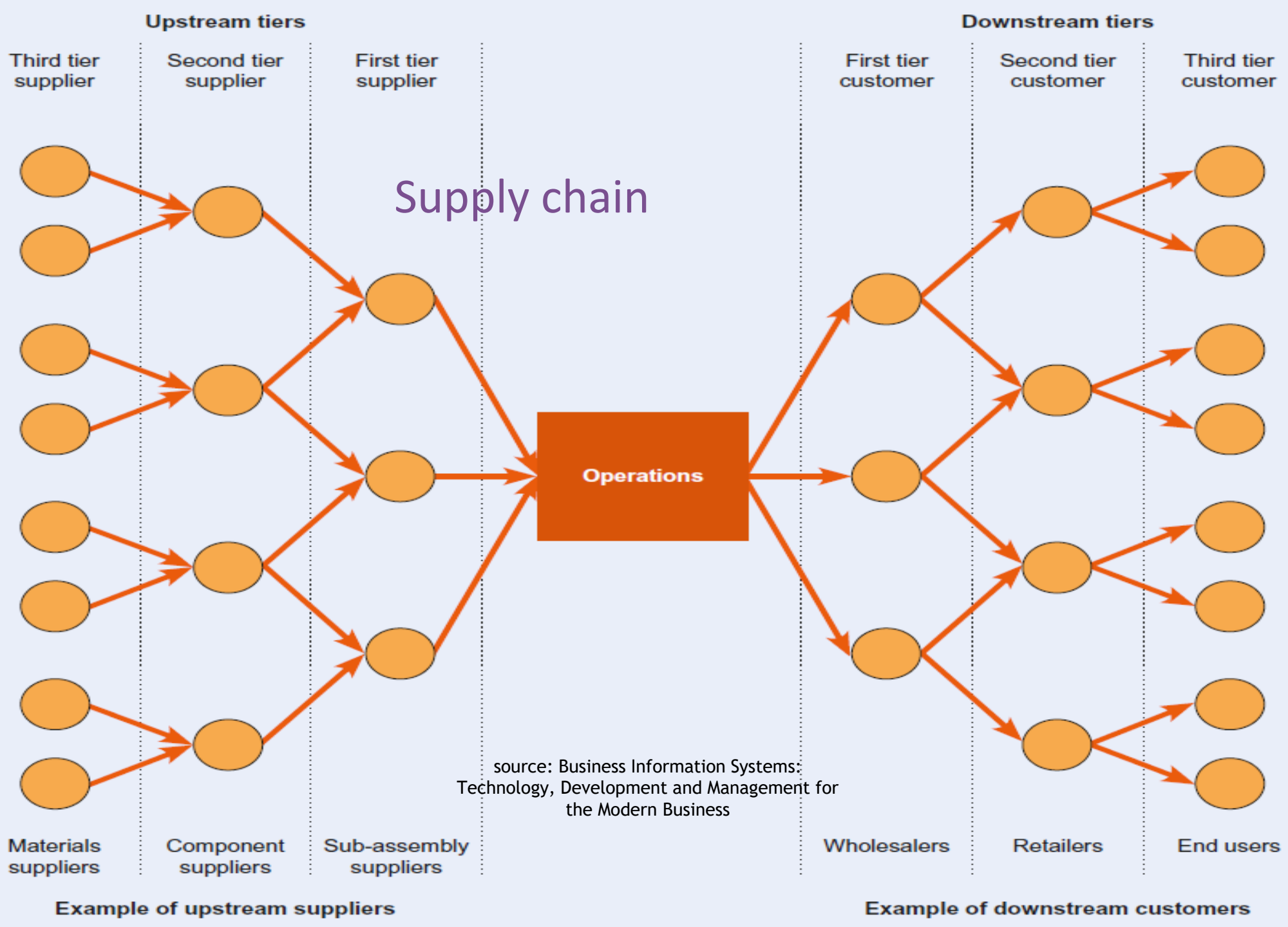
Supply chain

flow of materials, information, money & services

- From: beginning e.g. raw materials suppliers
  through warehouse / factory / organization
- To: end customer

e.g. information on product - via web
physical - shipped

Supply chain



source: Business Information Systems: Technology, Development and Management for the Modern Business

Supply chain management

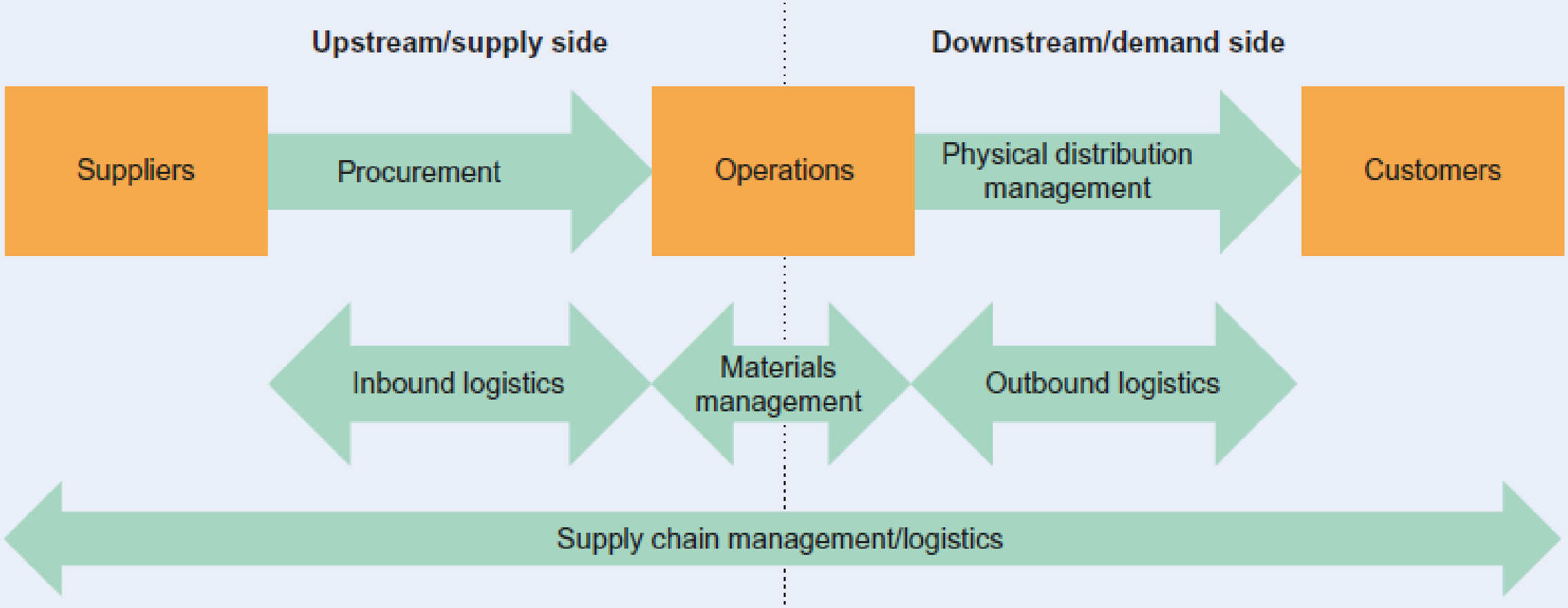
The supply chain consists of

- the series of activities that moves materials from suppliers,
- through the organization to customers

Each product or service will have its own supply chain,

- which may involve many organizations
- in processing, transportation, warehousing and retail.

Supply chain management



source: Business Information Systems: Technology, Development and Management for the Modern Business

Supply chain management

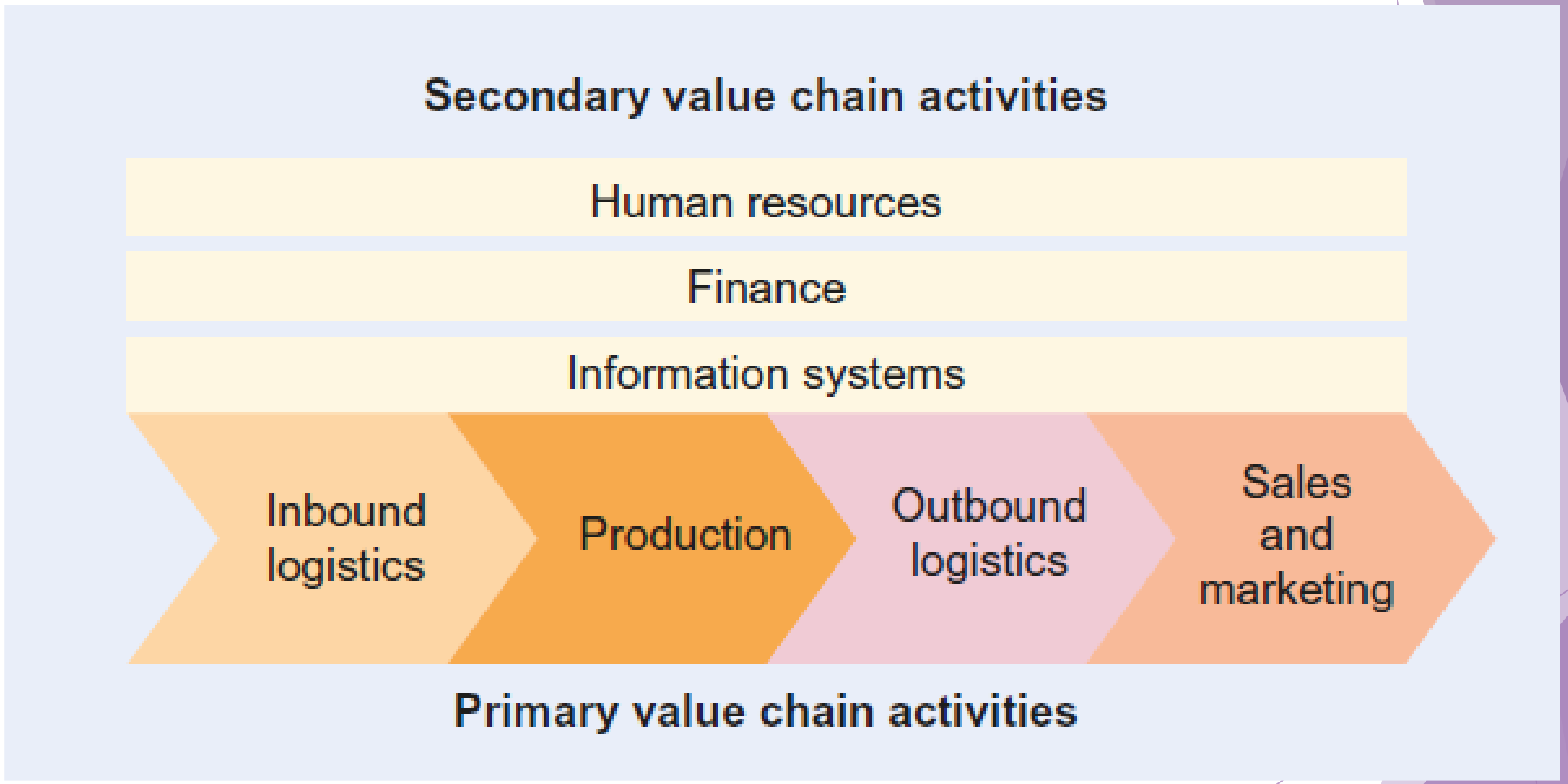
Value chain:

a series of connected activities that add value to an organization's products or services

Michael Porter (Porter, 1980)

- A value chain is used to describe all the business activities it takes to create a product from start to finish
  - design, production, distribution, etc.
- A value chain analysis gives businesses a visual model of these activities, allowing them to determine where they can reduce costs
  - e.g. low prices

value chain model



source: Business Information Systems: Technology, Development and Management for the Modern Business

value chain

internal value chain within the boundaries of an organization

external value chain activities are performed by partners

value chain analysis distinguishes between

1. primary activities that contribute directly to getting goods and services to the customer
   - inbound logistics, including procurement, manufacturing, marketing and delivery to buyers, support and servicing after sale, and
2. support activities which provide the inputs and infrastructure that allow the primary activities to take place.
   - finance, HR & information systems

Supply Relationship Management (SRM)

supply relationship management

supply relationship management (SRM) refers to all activities involved with obtaining items from a supplier

- includes procurement and inbound logistics
  - transportation, goods-in and warehousing
- connect ERP system to suppliers

supply relationship management

flexible manufacturing systems (FMS)

- process technology
- reduction in labour costs
- control of material costs major focus of overall manufacturing costs
- requires a high quality and reliable source of materials to be available

production planning systems

require the delivery of materials of perfect quality, at the right time and the right quantity

e.g. JIT

supply relationship management

Is it feasible and desirable to produce the good or service in-house?

- Often goods can be sourced internally at a lower cost, with higher quality or faster delivery

use a supplier -> choice of supplier

- perform a make-or-buy analysis to determine supply
- Criteria include price, quality and delivery performance
- offer expertise and resources

considered strategic issues

- internal skills lost if outsourcing
- distinctive competencies offered by the supplier

supply relationship management

warehousing

holding stock

buffer between supply and demand

warehouse or distribution centre

- incoming raw materials used in production
- hold finished goods ready for distribution
- work-in-progress items
- spares for equipment

supply relationship management

warehouses not long-term storage areas

need to process goods and services through the supply chain

as quickly as possible to serve customer demand,

sorting, consolidating and packing goods for distribution along the supply chain.

warehouse management

Centralisation vs Decentralisation

number, size & location of warehouses

Decentralised facilities

- service closer to the customer
- provide a better service level in terms of
- knowledge of customer needs and speed of service

Centralisation

- less handling of goods between service points
- lower control costs
- lower overall inventory levels due to lower overall stock levels being required.

SRM benefits

- faster purchase cycle times
- leading to a need for less material in inventory and
- less staff time spent in
  - searching and ordering products
  - reconciling deliveries with invoices
- automated validation of pre-approved spending budgets
  - fewer people processing each order
  - in less time
- greater flexibility in ordering goods from different suppliers
- integration of the many information systems

SRM barrier

The difficulty of linking systems with suppliers whose systems may be incompatible or non-existent.

It may be that small firms may find themselves increasingly excluded by buyers

Thank you!

any questions?