Introduction to Management Information Systems

Introduction to Enterprise Information Systems

Foundations of Information Systems

Learning objectives

- identify systems and their components;
- identify and describe the behaviour of systems;
- identify types of BIS
- evaluate systems relevance to the organisation;
- identify basic strategies and methods used to gain competitive advantage through the use of systems

Enterprise Information Systems Part II

Foundations of Information Systems

customer relationship management (CRM) systems

Customer Relationship Management (CRM)

"Customer Relationship Management (CRM) is an approach that helps businesses improve existing customer relationships and acquire new customers faster"

https://www.zoho.com/crm/what-is-crm.html

CRM system (software)

"acts as a single repository to bring your sales, marketing, and customer support activities together, and streamline your process, policy, and people in one platform."

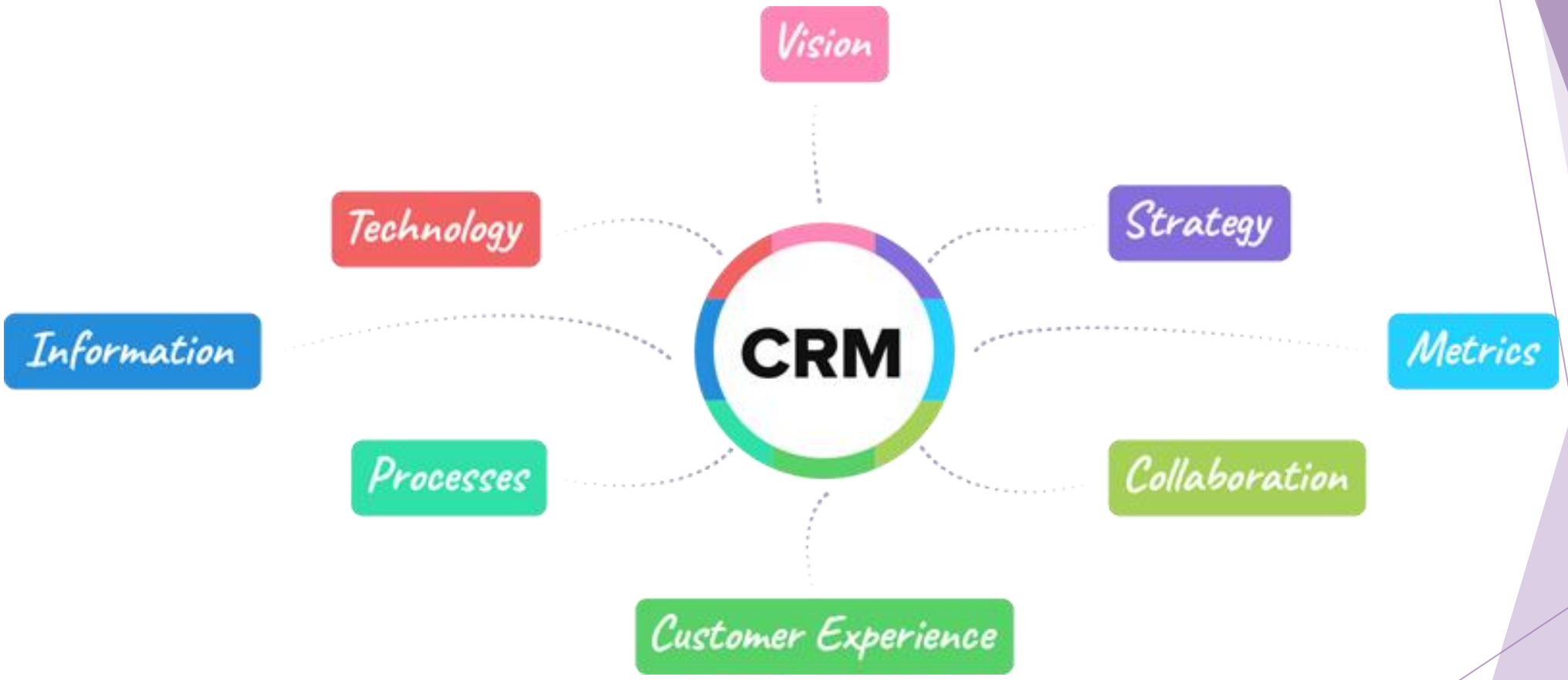
https://www.zoho.com/crm/what-is-crm.html

who uses CRM?

“real-estate, healthcare, insurance, legal, media, restaurants, travel, banking, tax, freelancers, and non-profits all use a customer relationship management software”

https://www.zoho.com/crm/what-is-crm.html

Customer relationship management



Source: Gartner research

Customer Relationship Management (CRM)

- 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/

CRM Services

- Sales Force Automation
- Lead Management
- Customer Service
- Multichannel Marketing
- Customer Experience
- Journey Orchestration
- Business Intelligence
- Account Management
- Artificial Intelligence
- Sales Performance Management

Customer relationship management

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

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

Survey from large department store chain

- $10 for every new customer , advertising etc.
- $1 for every returning customer
- How get returnee? Nurture relationship

- Referrals – word of mouth
- Good experience – few people
- Bad experience – many people
- Front line – sales, marketing, customer service

Sales Team

- Different systems for contact details
- Manager has to report to superiors
- How is data shared / communicated ?
- How good is the marketing campaign ?
- Do contacts disappear when sales person leaves ?

CRM in Enterprises

Enterprise organizations
have to manage large volumes of customer data,
coordinate and execute complex business processes,
maintain impeccable security standards, and
comply with local and international regulations

Data is

- decentralized, unorganized, different formats, incomplete
- Fail to spot trends

Solution = CRM

Integrate / centralize:

- Customer information
- All communications

Customer relationship management

How do you manage leads, new & existing customers ?

- Most efficient way to extract most value

Goal – improve business relationships with customers

- Result = retention & acquisition
- Leads => paying customers
- Customer => loyal customer base
- ‘better’ experience with company (improve customer satisfaction)

System

- Analyzes customer interactions
- Measure data throughout the customer lifecycle

progress

- Using spreadsheets & emails
- Add surveys
- Progress to a CRM system
- Manages business relationships, practices & processes
- e.g. relationships with suppliers

Key Features of a CRM system

- Lead management
- Contact management
- Deal management
- Email management
- Sales Automation workflows, macros
- Reporting and analytics
- Marketing automation
- Customization
- Mobile CRM

Issues with Business information

- Too much information to manage
- Waste time finding / losing information
- Poor access to customer information on repeat business
- People not on the same page / wavelength
- Lack of consistency for customer communications

Issues with Business information

- Lack of collaboration between people & departments
- No prioritization e.g. sales team
- Loss of information when employee is on leave, or leaves
- Lose business when you don’t follow up (e.g. leads)
- No inside analysis of marketing success or failures

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

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

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

CRM system benefits

Better data organization

- Leads, contacts, customers
- Sales, engagements, customer touch points

Enhanced Communication

- Templates, calendar
- Automatic reminders

CRM system benefits

Share Information

- Inside office, between departments, customers

Catch all leads

- Better / faster procedures for contact to sales

Statistics

- analyze your performance
- Weekly reports, ad hoc, summaries, sales & marketing

CRM Benefits

Help Sales & marketing by

- Improve response time
- Pursue new leads
- Build marketing campaigns
- Sales process streamlining
- Analyse purchasing patterns
- Ensure quality customer service
- Automate tasks

Bespoke solutions

- security and privacy of our customers' data
- recurring audits of our applications, infrastructure, and internal policies
- End-to-end implementation support
- Consult – build – employ – assist

Training

- Data across your tech stack , system integration

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

CRM vs ERP - What's the Difference?

- CRM
  - Focuses on boosting sales
  - outward touch points
- ERP
  - Focuses on reducing costs
  - inward efficiency

Choosing between ERP or CRM

- Needs
- Investment
- Scale
- Overlap but different
- ERP > CRM cost
- CRM for small benefits
- ERP benefits for large, complex
- Larger businesses incorporate an integrated CRM with the ERP

supply chain management (SCM) systems

Supply chain management (SCM)

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

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

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

Activities on the input side to the organization

‘upstream’ or ‘supply side’

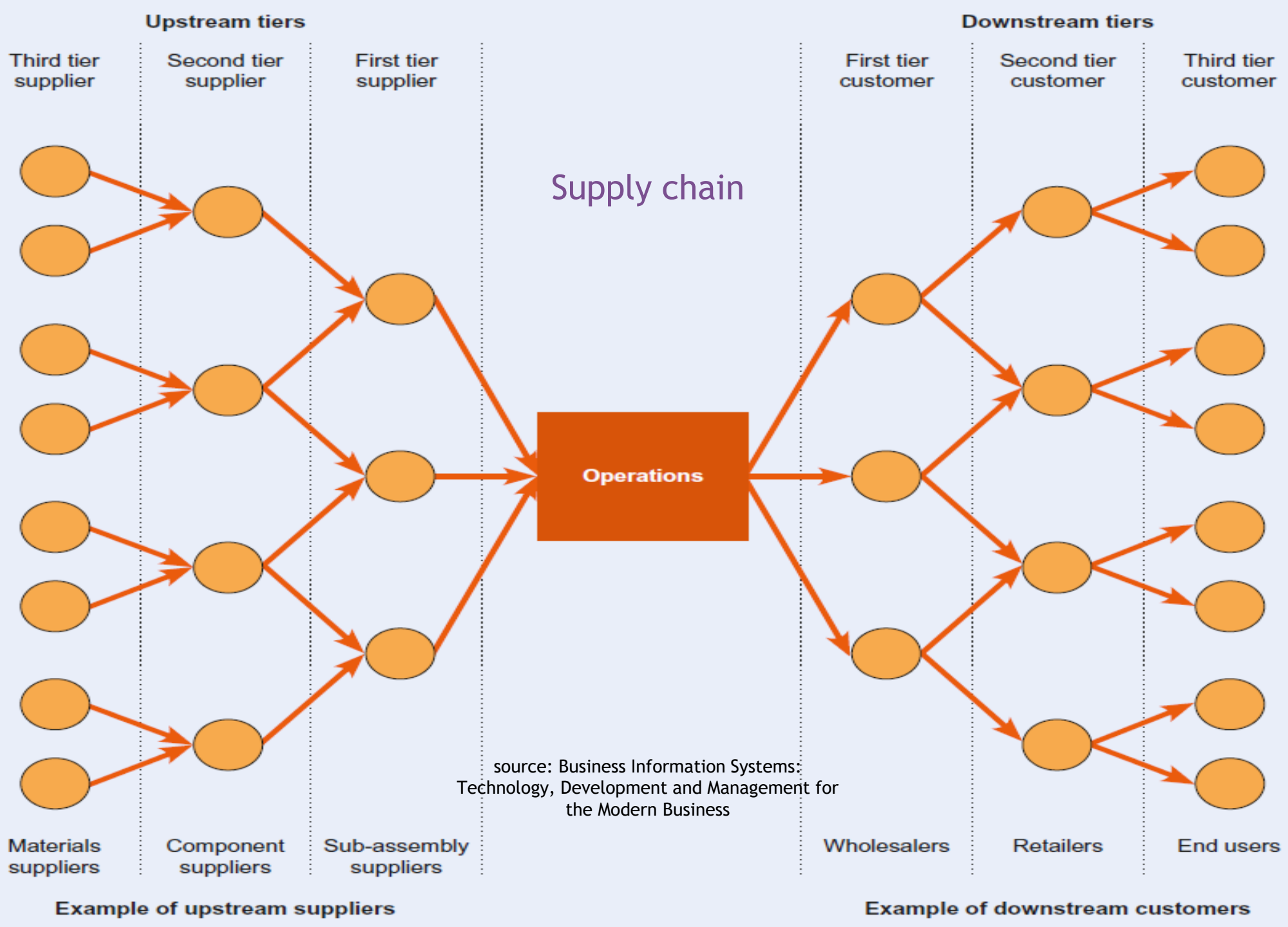
divided into tiers of suppliers

Activities on the output side

‘downstream’ or ‘demand side’

divided into tiers of customers

Supply chain



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

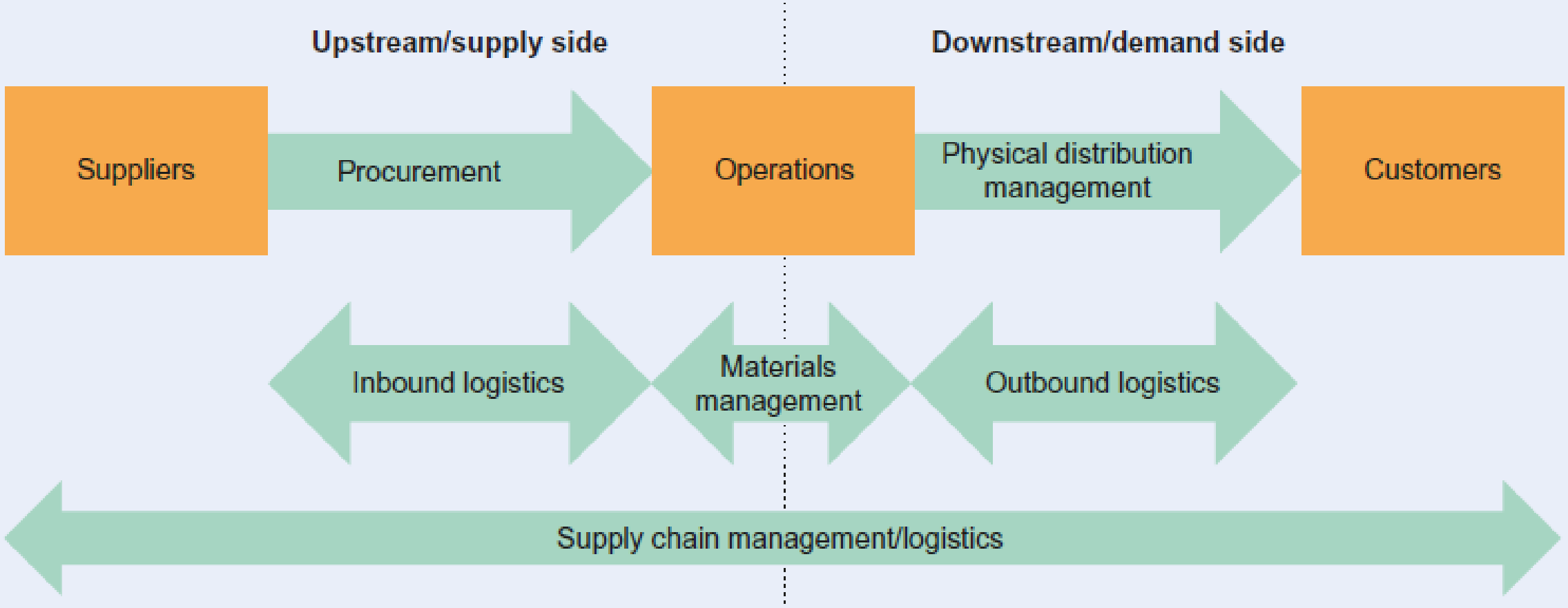
supply chain

Upstream suppliers

- ‘first-tier’ supply the organisation directly
- ‘second tier’ suppliers that supply first-tier organisations
- e.g. component and sub-assembly suppliers

downstream customers

- wholesalers and retailers.
- separate supply chain for each product or service
- ‘supply network’ or ‘supply web’



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

SCM

Supply chain management

- the management of the flow of materials through the entire supply chain

Inbound (or inward) logistics

- the activity of moving material in from suppliers

outbound (or outward) logistics

- activity of moving materials out to customers

materials management

- the movement of materials within the organisation
- management of upstream supply chain activities

SCM

Supply chain activities

- procurement from suppliers
- physical distribution management
- deals with downstream activities
  - warehousing
  - transportation to customers

Supply chain management enterprise systems connect the ERP system to an organisation’s customers and suppliers.

SCM

SCM systems are able to improve supply chain performance

1. supply chain visibility
2. supply chain integration

supply chain visibility

- organisations need to cooperate with one another to provide customer satisfaction
- limit fluctuations in demand which affects performance (bullwhip effect)
- a lack of synchronisation between supply chain members
- change in consumer sales ripple backwards in demand upstream

factors that increase variability

- time lag between ordering materials and getting them delivered,
- order batching
  - order goods when they reach a predetermined batch size
- price cuts and quantity discounts
  - companies buy products before they need them.

supply chain visibility

- to limit supply chain variability
  - share information amongst
  - improve supply chain visibility
  - give access to the product demand of the final seller

Enterprise systems

- connect to organisations
- collect information from (EPOS) systems
- transmitted to warehouses and suppliers further down the supply chain

Information available to supply chain

help to reduce lead times between ordering and delivery

using a system of coordinated or synchronized material movement

supply chain integration

ERP systems

- provide integration of processes across functional areas within the organisation.

SCM systems

- extend this integration across organisations within the supply chain

value-chain analysis

- supply chain integration decisions - use value-chain analysis
- which set of activities (e.g. design, assembly) should be undertaken
- rather than from the viewpoint of products or services

Supply chain management

Value chain:

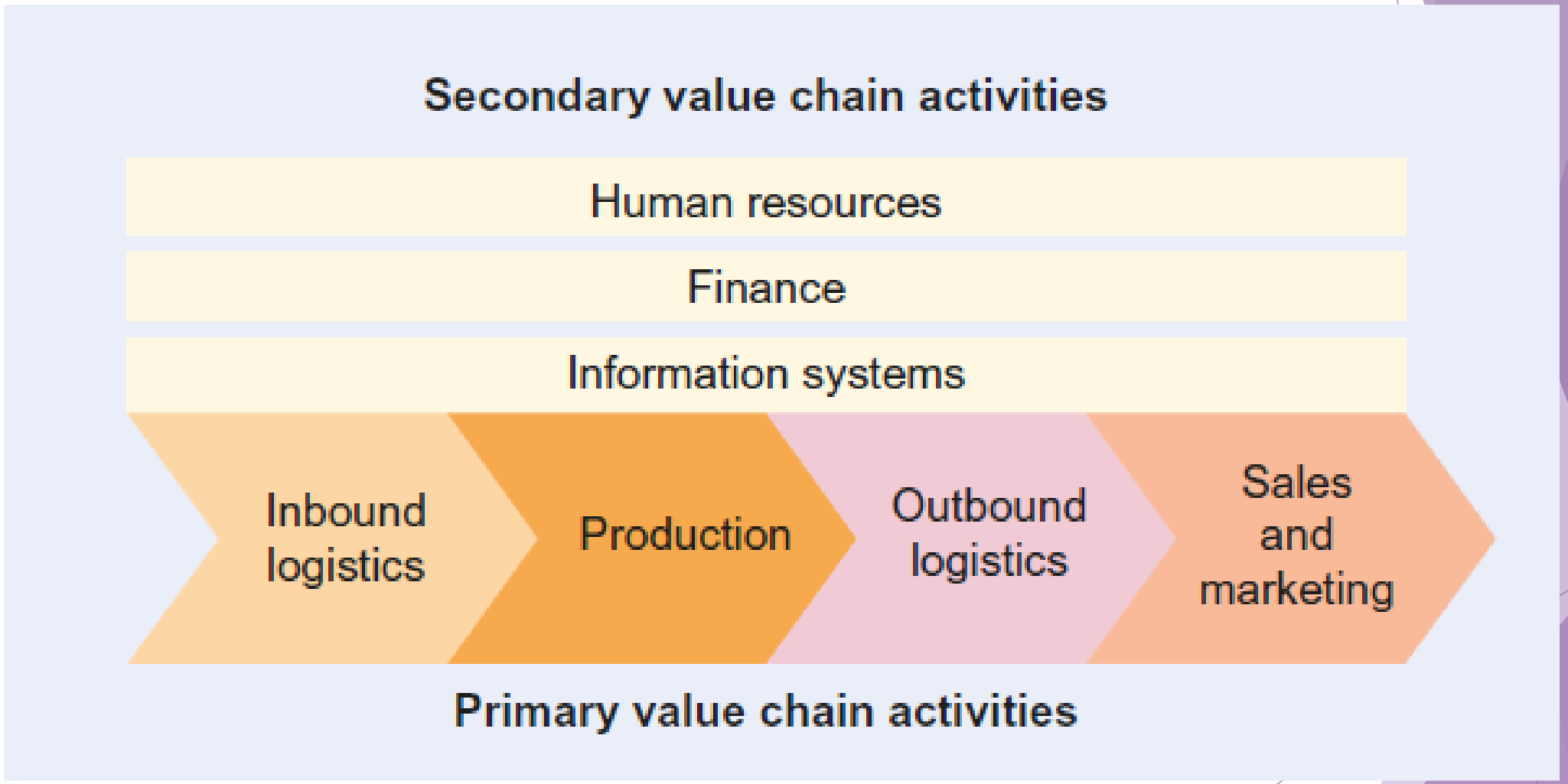
a series of connected activities that add value to an organization's products or services

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



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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 chain integration

value-chain analysis

- consider outsourcing may have cost implications for other products and services
- aims to configure activities in order to minimise cost
- not specifically define where activities should occur
- within the constraints of the financial resources available
- challenge of the coordination of activities within the supply chain

supply chain integration

Market relationships

- each purchase is treated as a separate transaction
- can use ES to share information
- combining orders in a single delivery to reduce transportation costs, agreements on packaging standards to improve materials handling and other factors.

supply chain integration

Market relationship

- permits flexibility
  - suppliers can be changed or discontinued if demand drops
  - or supplier introduces a new product.
- use of competition between suppliers

disadvantages

- either side can end the relationship at any time
- supplier withdrawal = lengthy task of finding a new supplier
- withdrawal of a buyer may lead to disruption and idle resources

Strategic partnerships and alliances

- long-term relationship
- work together and share information
- planning systems and development of products and processes
- agreement on product costs and product margins
- combine the advantages of a marketplace relationship
- encourages flexibility and innovation
- advantages of vertical integration
- allows close coordination
- control of quality

Strategic partnerships and alliances

- partnership may not be worthwhile
- may not want to share sensitive information
- lose control of products or processes

The virtual organisation

form of an organisation’s relationship within its supply chain

affected by developments in e-business systems

form a part of an Enterprise System

impact of information on the value chain

Reach

- share information with more stakeholders
- gain a larger audience at a low cost

Customization

- information more tailored for sharing with a large number of partners.

Dialogue

- interaction two-way rather than push of information, e.g.,
  - supplier anticipates a retailer's product requirements
  - from inventory forecast rather than waiting

Evans and Wurster (1997)

supply chain integration

virtualisation

- e-business developments
- easier to outsource more and more supply chain activities
- boundaries between and within organisations blurred
- absence of any rigid boundary or hierarchy within the organisation
- lead to a more responsive and flexible company
- greater market orientation

virtual organisation

- Processes cross boundaries & not controlled by a single organisation
- processes are flexible - different parties - different times.
- Parties often at different locations
- coordination dependent on telecommunications & data networks

E-business

bypassing some of the tiers

‘disintermediation and re-intermediation’,

the creation of new intermediaries between customers and suppliers in the supply chain

Kraut et al. (1998)

Vertical integration

- Complete integration
  - ownership of other organisations in the supply chain
  - ‘level’ of vertical integration

backward vertical integration

- own upstream or supply-side elements of the supply chain

forward vertical integration

- own downstream or demand-side elements of the supply chain

Vertical integration

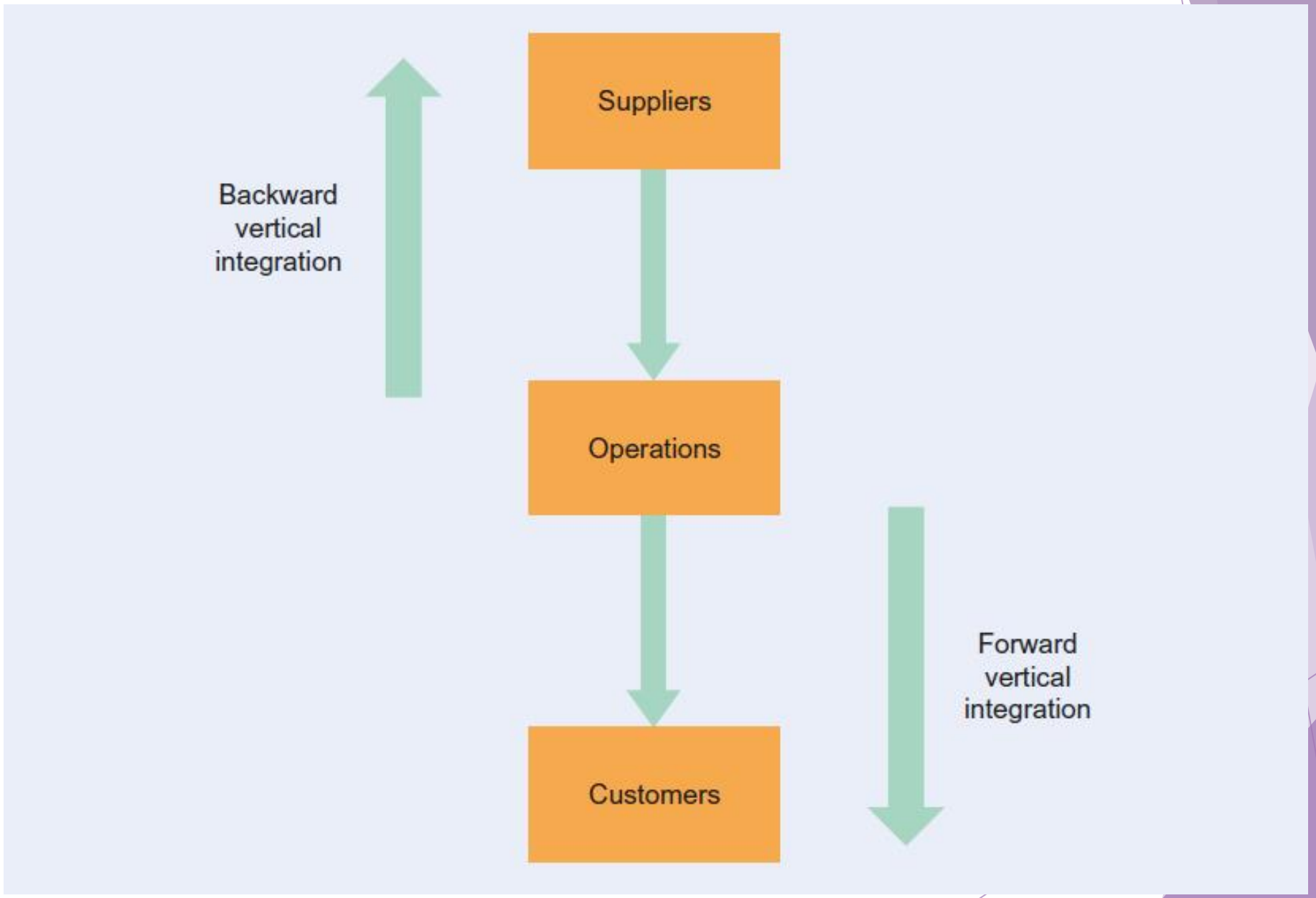
- amount of integration dependent on the financial resources
- smaller firms unlikely, even large find it difficult
- resources used for vertical integration could be better spent elsewhere
  - e.g. R&D or marketing

Vertical integration

- may leave certain aspects to specialist suppliers
- may not make sense to take ownership of them.
- virtualization may allow efficient coordination of supply chain activities

Disadvantages (non-vertical integration)

- the potential high cost of switching partners,
- loss of intellectual property
- loss of competitive advantage,
- termination of partnerships


Suppliers
Backward vertical integration
Operations
Forward vertical integration
Customers

Thank you!

any questions?