Enterprise Systems & Architecture
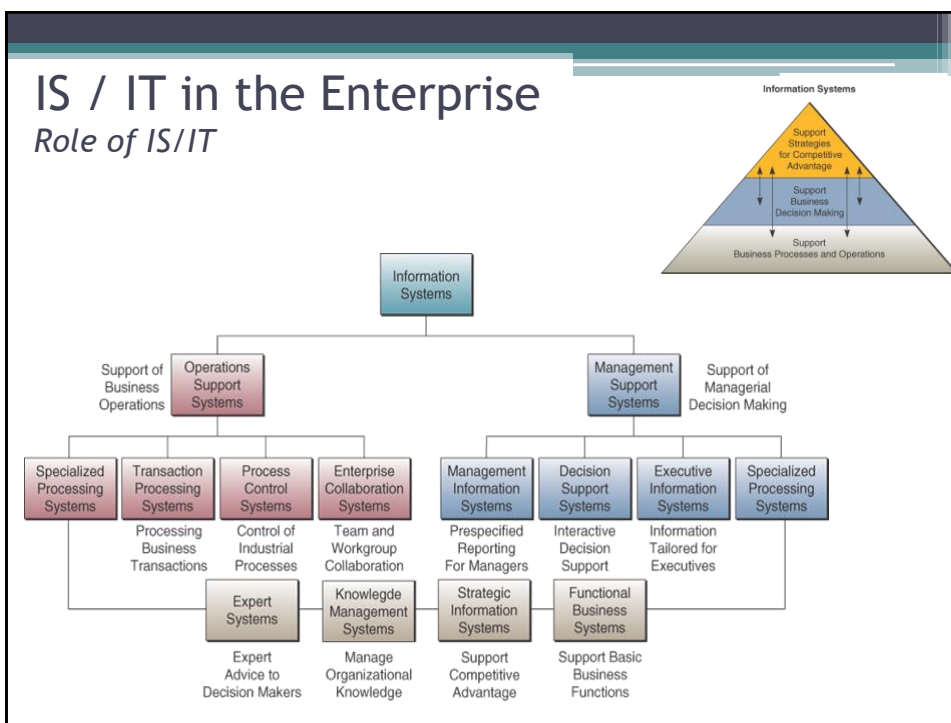
Module Review / Exam

Module Content

1. **IS / IT in the Enterprise**
   - Role of IS/IT
   - Business Strategy & IT / The Value Chain

2. **Enterprise Business Systems**
   - ERP
   - CRM
   - SCM

3. **EAI**
   - Goals
   - MOM
   - ESB

4. **Enterprise Integration Technology**
   - XML
   - XSD
   - XSL

IS / IT in the Enterprise
Role of IS/IT

IS / IT in the Enterprise
Business Strategy & IT

- Technology is no longer an afterthought in business strategy, but the cause and driver

- IT can change the way businesses compete
  - Nicholas Carr – "Does IT Matter"

- A **strategic information system** is any information system that uses IT to help an organization...
  - Gain a competitive advantage
  - Reduce a competitive disadvantage
  - Or meet other strategic enterprise objectives

- **Value Chain** - a chain of basic activities that add value to its products and services

Business Systems
ERP

- ERP is:
  - A process of **managing all resources** and their use in the entire enterprise in a coordinated manner

  - ERP is a set of **integrated business applications**, or modules which carry out common business functions such as general ledger, sales forecasting….

  - Support business through optimizing, maintaining, and tracking **business functions**: HR, financial, manufacturing etc…

Business Systems
SCM

- Supply chain management (SCM)
  - The function of planning, organising and optimising the supply chain's activities.

- It consists of two areas:
  - The *flow of materials, information, money* and services from raw material suppliers, through factories and warehouses, to the end customers
    - Supply chains exist within businesses and between/across businesses

  - A *network of facilities* for procuring materials, transforming raw materials into finished products,' and distributing finished produce to customers.

Business Systems
CRM
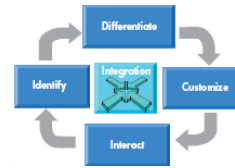
- An enterprise wide effort to acquire and retain customers.
  - Includes a *one-to-one* relationship between a customer and a seller.
  - One simple idea "*Treat different customers differently*".
  - Helps keep profitable customers and maximizes lifetime revenue from them.
    - Identify/acquire/retain most profitable prospects
    - Acquisition is far more expensive that retention.
  - Integrating information from sales, marketing, customer service and any other service points
    - Also known as *touch points* – where the customer interacts with the organisation

- Therefore must provide analytical tools for determining *value, loyalty, profitability* of customers

  - Assist in acquiring new customers, providing better service and support to customers, customize offerings to customer preferences, provide ongoing value to retain profitable customers
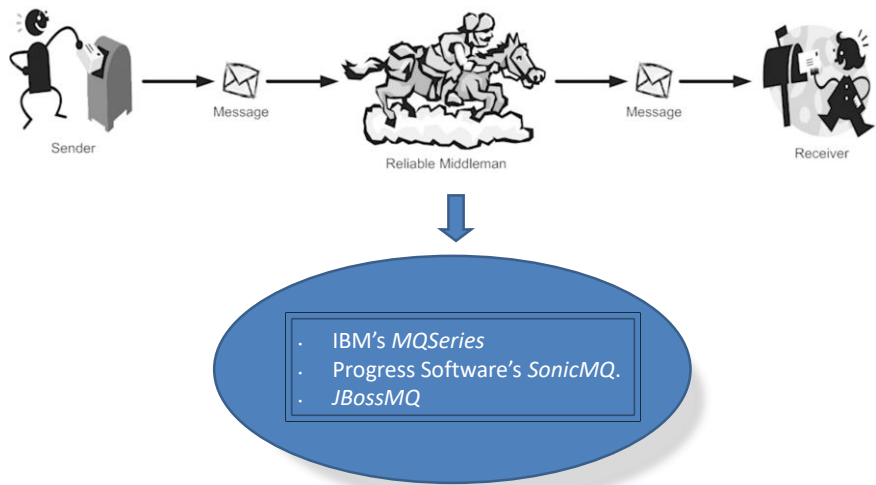

EAI
Goals

- Loose Coupling
  - A desirable quality of integration solutions
  - Reduces assumptions
  - Reduces brittleness
  - Allows scalability
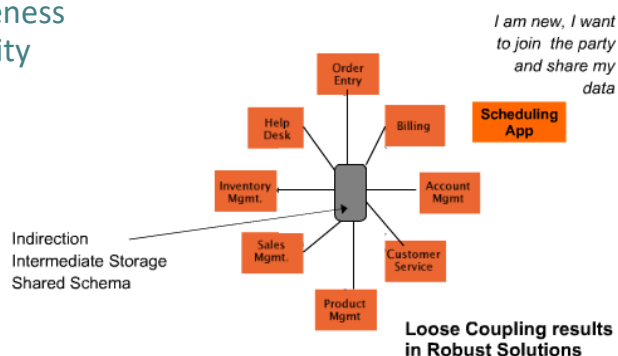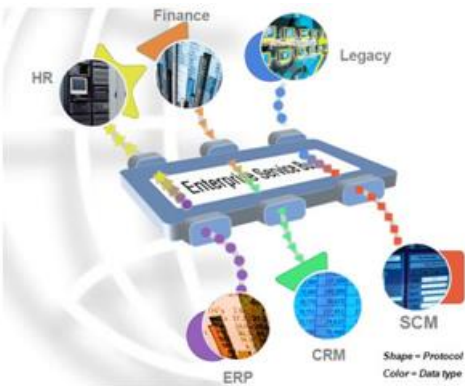
EAI
MOM / Integration Patterns

- IBM's *MQSeries*
- Progress Software's *SonicMQ*.
- *JBossMQ*

EAI
ESB & Integration Principles

Enterprise Integration Technology
XML

- Stands for E**X**tensible **M**arkup **L**anguage

- Similar to HTML

- XML was designed to **carry data**, not to display data like HTML

- XML tags are **not predefined**. You must define your own tags

Enterprise Integration Technology
XSD

- A **schema** is an XML document that defines the content and structure of one or more XML documents.

- Alternative to Document Type Definitions (DTDs)

- The XML document containing the content is called the **instance document.**

Enterprise Integration Technology
XSL

- W3C developed the **Extensible Style sheet Language (XSL)**
- XSL is composed of three parts:
  - XSL-FO (Extensible Style sheet Language – Formatting Objects)
  - **XSLT (Extensible Style sheet Language Transformations)**
  - XPath
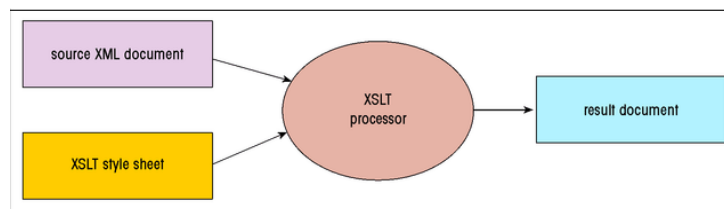
Exam

- Answer **3** out of 4 questions

- Each question carries equal marks

- 2 hours for exam
  - 10 minutes to read paper / choose questions
  - 33 minutes per question
  - 10 minutes to re-read your answers

Exam

- Questions are similar in nature to past papers

- We have covered material that has not been covered in years previous to 2013/2014.

- There will be 1 question from each of sections 1, 2 and 3 and one other question from one of those three sections as described earlier.

- Section 4 has been assessed through CA. However, go through lab material for work involving XML / XSD / XSL and MOM as you may want to use this to support answers to other questions

Question Types

- Most questions will be discursive in nature
  - E.g. *Discuss three areas that you think give rise to obstacles that hinder the adoption / implementation of an SCM system [12 marks].*

    - Trust
    - Resistance
    - Cost