



MONASH University

Information Technology

**FIT 3138**

**Real-Time Enterprise Systems**

**Lecture 12**

**Unit Summary and Exam Preparation**

# Unit Outline

Week	W/C	Topic	Deadline:
1	25/07	Introduction to FIT3138; Introduction to Enterprise Systems	
2	01/08	Systems Integration - Role of ERP in Business Functions and Processes	Assignment 1 handed out
3	08/08	The Development of ERP Systems	
4	15/08	ERP in Sales and Marketing & CRM	
5	22/08	ERP in Production and Supply Chain Management	
6	29/08	Accounting in ERP Systems	
7	05/09	Process Modelling & Improvement	Assignment 1 due Assignment 2 handed out
8	12/09	ERP Implementation – Life Cycle & Strategy	
9	19/09	ERP Implementation – Risk Management	
Mid-semester Break (26 Sep – 30 Sep 2022)			
10	03/10	ERP Implementation Issues: Managing Change	
11	10/10	Technologies supporting real-time enterprise	
12	17/10	Exam Review	Assignment 2 due

# Lecture 1



**What is an Enterprise System?**



**What is Real-time Enterprise?**



**What are the functions of enterprise systems?**



**What are the drivers for enterprise systems?**



**What are the benefits of enterprise systems?**



**What is the “Sense-Analyse-Response” framework?**



**What are the characteristics of real-time enterprise systems?**

# Lecture 2



**Describe the main functional areas of operation used in business**

- **Marketing and Sales, Supply Chain Management, Accounting and Finance, and Human Resources**
- **Marketing and Sales:**
  - Sets product prices, promotes products through advertising and marketing, takes customer orders, supports customers, and creates sales forecasts
- **Supply Chain Management:**
  - Develops production plans, orders raw materials from suppliers, receives raw material, manufactures products, maintains facilities, and ships products to customers
- **Accounting and Finance:**
  - Financial accounting to provide summaries of operational data in managerial reports, controlling accounts, planning and budgeting, and cash-flow management
- **Human Resources:**
  - Recruits, hires, trains, and compensates employees, ensures compliance with government regulations, and oversees the evaluation of employees

## Lecture 2



**Differentiate between a business process and a business function**

**Define integrated information systems, and explain why they are essential in today's globally competitive business environment**

**Employees working in one functional area need data from employees in other functional areas**

- **Functional area information systems should be integrated, so shared data are accurate and timely**

**Managers think in terms of business processes that integrate the functional areas**

- **Need to share information between functions and functional areas**
- **ERP software provides this capability by means of a single common database**



## Lecture 3

# Systems Architecture

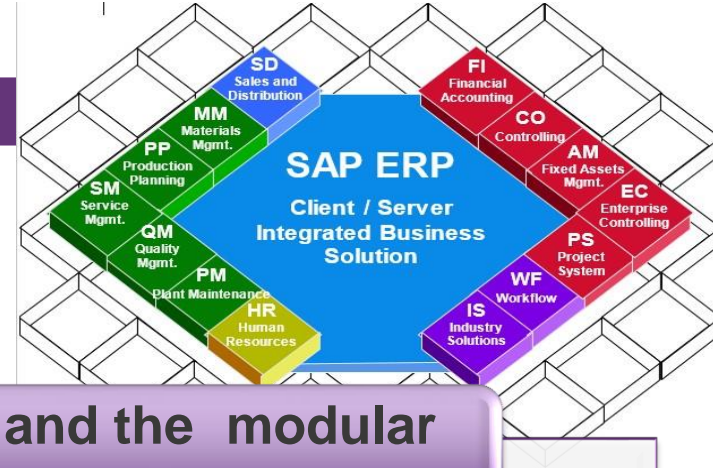
### Identify the factors that led to the development of Enterprise Resource Planning (ERP) systems

- Increasing speed and power of computing hardware
- Early client-server architecture provided the conceptual framework for multiple users sharing common data
- Increasingly sophisticated software facilitated integration
- Growth of business and competition made businesses demand more efficient and competitive information systems

### Discuss the management's impetus to adopt ERP

- Hard economic times caused many companies to downsize and reorganize
- Inefficiencies caused by the functional model of business organization
- Functional model led to top-heavy and overstaffed organizations incapable of reacting quickly to change
- Requirements of the Sarbanes-Oxley Act of 2002

# Lecture 3



**Describe the features of ERP (eg SAP) and the modular characteristics of ERP software**

- Enables a company to support and optimize its business processes
- Real-time environment; Scalable and flexible, etc
- The modular design of SAP ERP is based on business processes

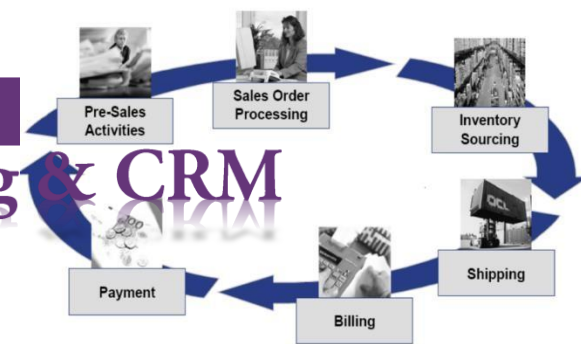
**Discuss the various ERP architectures**

- The related benefits and drawbacks of each architecture.
- Service-oriented architecture and its impact on ERP systems.
- Cloud architecture and its impact on ERP systems.



# Lecture 4

## Sales and Marketing & CRM



Explain why unintegrated Marketing and Sales information systems lead to company-wide inefficiency and other problems

Explain how integrated data sharing increases company-wide efficiency

Describe the sales and distribution process in the ERP system (eg SAP)

Discuss the core CRM activities

Describe the benefits of customer relationship management (CRM) software



# Lecture 5 - ERP in Production and Supply Chain Management

Understand the integrated process of fulfilment, procurement and production

Describe the steps involve in a generic production planning process

Discuss some production and materials management problems in an unintegrated system

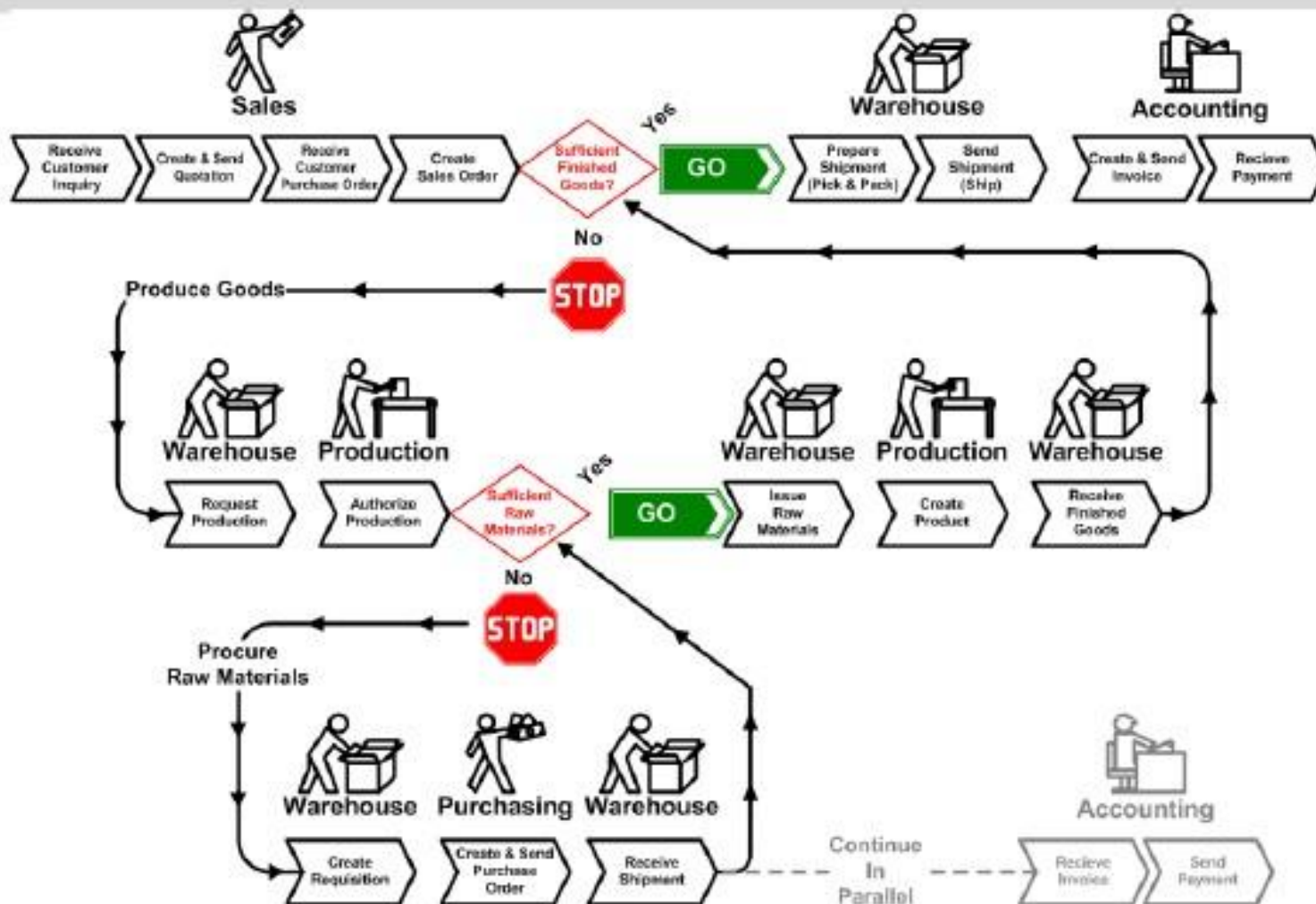
Discuss how an ERP system can improve the efficiency of production and purchasing processes and to aid decision making

Describe how production planning data in an ERP system can be shared with suppliers to increase supply chain efficiency

Describe an integrated procurement process and why it is important to streamline the procurement process

# Integrated Processes

## Fulfillment + Procurement + Production



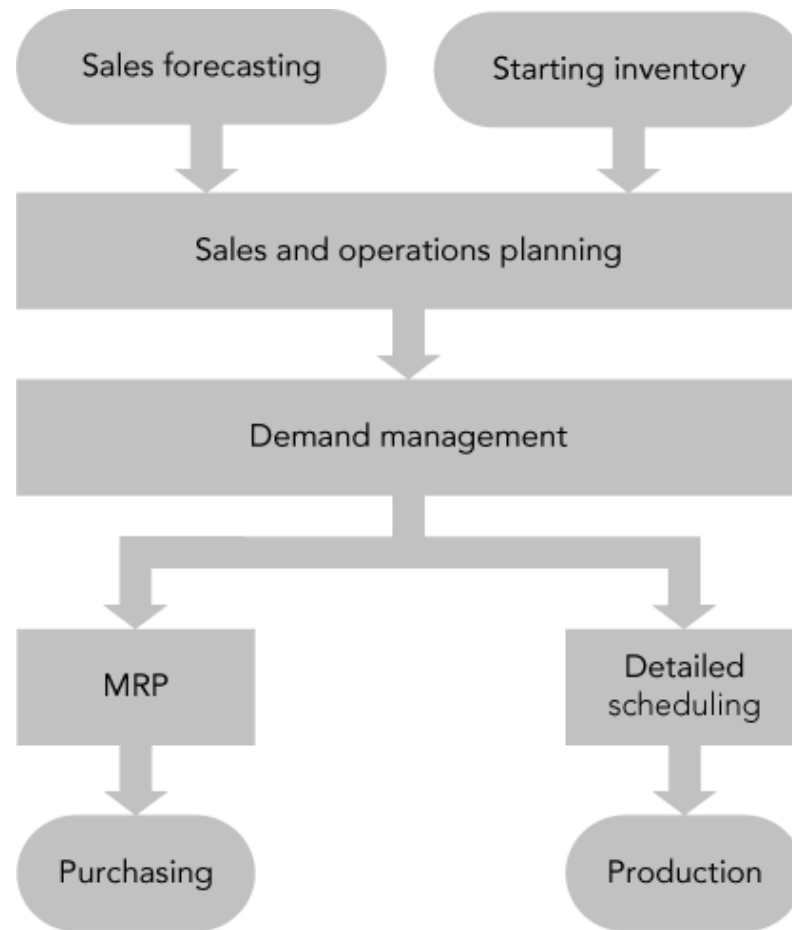
### Scenario

- ✓ Make to order
- ✓ Procure to order
- ✓ Customer order triggers fulfillment
- ✓ Lack of inventory of bikes triggers production
- ✓ Lack of inventory of RM triggers procurement

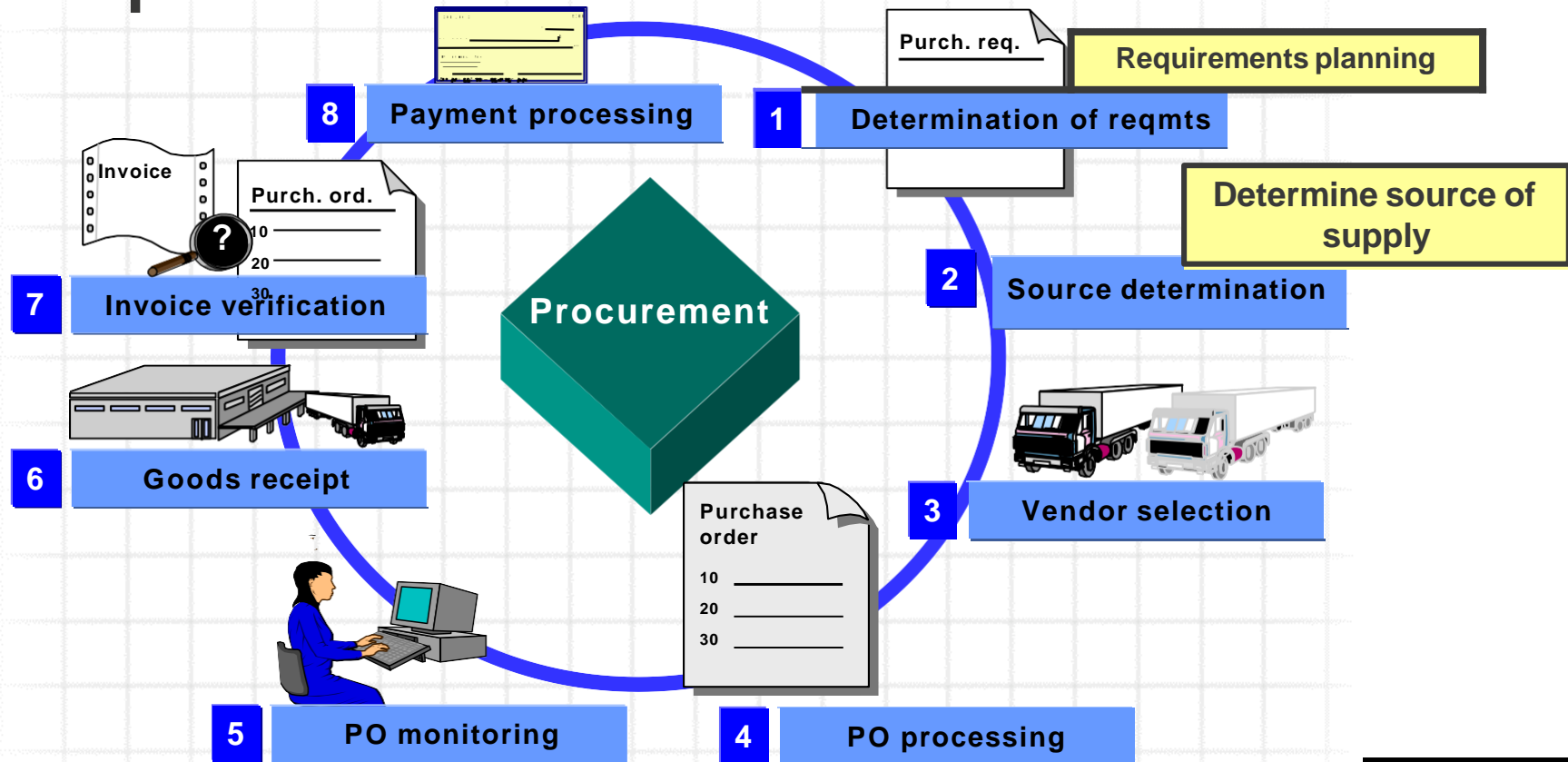
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Source: Magal and Word, *Essentials of Business Processes and Information Systems*, Wiley, 2009

# The Production Planning Process



# Understanding Procurement cycle and why it is important



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**Process of purchasing materials from Vendors (suppliers)**



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## Lecture 6

**Identify and describe problems associated with accounting and financial reporting in unintegrated information systems**

**Describe how ERP systems can help solve accounting and financial reporting problems in an unintegrated system**

**Describe how the Enron scandal and the Sarbanes-Oxley Act have affected accounting information systems**

**Explain accounting and management-reporting benefits that accrue from having an ERP system**

**Discuss the use of XBRL in financial reporting**



# Lecture 7

## What is Business Process Re-engineering (BPR)

- BPR principles and how information technology supports BPR

## What is Business Process Modelling (BPM) and its benefits

### Process mapping:

- hierarchical modeling, deployment flowcharting, event process chain (EPC) diagramming, value analysis, and business process improvement

## Discuss the key issues in managing an ERP implementation project

## Describe some of the key tools used in managing an ERP implementation project



# Lecture 8

Implementation  
Life Cycle,  
Strategies &  
Limitations



**Discuss the ERP implementation life cycle and strategy**

**Discuss some pre-implementation tasks to kick off a seamless implementation.**

**Discuss the ERP implementation challenges**

**How to ensure a successful ERP implementation**

**Understand the importance of good project management in an ERP endeavour**

**Know the components of a project organisation and the roles and responsibilities**





# Lecture 9

**Discuss IT Project issues and identify critical risks factor**

**Describe a risk management approach**

**Discuss the warning signs that indicate an ERP Implementation Project may be in trouble**

**Elements of risk management – Risk Assessment, Risk Response and Risk Control**

**Describe a risk matrix and identify how it is used in risk assessment**



# Lecture 10 - Data and System Integration and Configuration

Identify the reasons for implementing an ERP system

Explore the key integration issues – data & system integration

Identify the main drivers for Master Data Management

Explore the benefits of data integration

**Discuss the impact of change management on ERP Implementation**

**Discuss the issues around training**

## Define organisational change management

**Identify OCM as a critical success/risk factor**

**Discuss Kotter's 8 Step Process for Leading Change**

# Lecture 11 – Technologies Supporting Real-time Enterprise

**Digital transformation: Big Data & IoT**

**Define RFID & business intelligence (BI)**

**Explain how in-memory computing will change the use of BI**

**Discuss the importance of mobile applications to businesses**

**Describe cloud computing and why it is important**

**Discuss the use of Social Media, IoT, AI, Automation & Additive Mfg**

**Examine the technology and advantages of SaaS**

# **Exam Preparation: Format of the Exam**

## **Section A: Case Study**

**Answer all questions in this section**

**Total: 20 marks**

## **Section B: 6 Questions with sub-parts**

**Choose ANY 4 questions (with sub-parts) from this section. (10 marks per question)**

**Total: 40 marks**

**Total marks: 60 marks**

**(Refer to the Sample Exam paper that is uploaded on Moodle)**

## **Faculty Policy - Unit Assessment Hurdles Policy.**

To pass a unit which includes an examination as part of the assessment a student must obtain:

- an overall unit mark of 50% or more, and
- 45% or more in the unit's examination, and
- 45% or more in the unit's total non-examination assessment.

- Suggestions for exam preparation: All lectures, all tutorials and readings.
  - No questions on SAP software.
  - See sample exam paper in Moodle
  - Check exam consultation times

## Section A (Q1) : *(Answer all questions)*

- A mini case study
- This is the compulsory section and you MUST answer all questions in this section.
- This section is worth 20 marks
- Topics covered:
  - Can be anything we covered in this unit
  - E.g. implementation issues, technology involved...



## Section B: *(Choose 4 out of 6)*

- Question 2: Real-time Enterprise & Business Processes and Functions
- Question 3: ERP in Sales and Marketing & CRM
- Question 4: ERP in Production and Supply Chain Management
- Question 5: ERP in Accounting and Process Modelling
- Question 6: ERP Implementation and Change Management
- Question 7: Technologies supporting real-time enterprise systems