



ACCG812: INFORMATION TECHNOLOGY MANAGEMENT

Michael Matthew

**Semester 2,
Year: 2009**

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**MACQUARIE UNIVERSITY
FACULTY OF BUSINESS AND ECONOMICS
UNIT OUTLINE**

Year and Semester: 2009 - 2nd Semester

Unit convenor: Michael Matthew

Prerequisites / Corequisites: None

Students in this unit should read this unit outline carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult the teaching staff in the unit.

1 About this Unit

1.1 Overview

This unit is designed to give students a managerial or executive perspective over a very broad range of Information Technology related subjects.

It emphasises the management of Information Technology whilst reinforcing the basic concepts and/or technical perspectives of information technology.

Finally, it summarises the practice of Information Technology which will benefit students who:

- will need to work with Information Technology managers and their personnel who are facing some of the problems and are using the principles addressed in the course, or
- will have (some sort of) Information Technology management responsibility.

Whether you are an IT student looking for hints on management or a 'Finance' student looking to find out more about IT so they can be comfortable talking about it in the work place there is a lot for you in this unit.

1.2 Teaching Staff

The unit is taught by visiting lecturer Michael Matthew

Full details of Michael's background and his contact details are included in 5. Visiting Lecturer Information.

Michael is contactable before or after lectures as well as via email and phone at other times.

1.3 Classes - Unit Timing and Location

Thursday evenings commencing at 6 p.m. in room E4B314.

The weekly lectures/seminars will involve approx. 2 ½ to 3 hours

1.4 Required Textbook

Information Systems Management in Practice; Barbara C. McNurlin, Ralph H. Sprague and Tung Bui 8th Edition, 2009, Prentice Hall International.

Note: Copies are available in the University bookshop and at all good technical bookstores including online.

1.5 Unit Web Page

A Blackboard site has been set up for this Unit at:

<http://learn.mq.edu.au>

Students log into Blackboard using their Student ID Number and myMQ Portal Password.

Click on ACCG812 to access this unit's resources.

This site contains copies (PowerPoint shows) of all the lecture notes / presentations.

It also contains other relevant presentations and other information.

In addition, it contains i-Lectures which are used in the online running of this unit – OLACCG812.

These are the actual 'face to face' lectures (audio only) which were recorded during 1st semester 2009. Michael wants to express his thanks to the class from that semester.

These will prove useful should e.g. a student miss a lecture / want to revisit the lectures.

1.6 Unit Learning Objectives and Outcomes

The learning objectives and outcomes of the unit are many and varied. Primarily it is to get students comfortable with the 'world' and 'jargon' of Information Technology.

Specifically, during the unit we will:

- explore and debate critical issues relating to managing and administering the Information Technology function,
- investigate the overall needs of an organisation and the role of Information Technology in providing them,
- examine alternative ways to match the Information Technology function to the structure and behaviour of the organisation.

The unit makes extensive use of the book's case studies (many of which were clients of the lecturer) as well as the lecturer's over 25 years of practical IT experience.

1.7 Teaching and Learning Strategy

This lecture-based unit will use textbook readings, supplemental readings and extensive class discussion supported by 'homework' assignments. In addition to the usual 'theory' we will examine over 70 'case studies' from both the text and the lecturer's experience.

The weekly lectures/seminars will involve approx. 2 ½ to 3 hours:

- 'answering' the questions assigned from the previous lecture, and
- discussion of the current lecture's topics.

1.8 Unit Schedule – Summary

Week	Thursday	Chapter	Topics
1	6 August	1	Information Systems Management in the Global Economy
2	13 August	2	The Top IS Job
3	20 August	3	Strategic Uses of Information Technology
4	27 August	4	Strategic Information Systems Planning
5	3 September	5	Designing Corporate IT Architecture
6	10 September	6	Managing Telecommunications
7	17 September	7	Managing Corporate Information Resources
		8	Managing Partnership-Based IT Operations
	n/a	w/c 21 and 28 Sept.	University Break = no classes
8	8 October	9	Technologies for Developing Effective Systems
9	15 October	10	Management Issues in Systems Development
10	22 October	11	Managing Information Security
		12	Supporting Information Centric Decision Making
11	29 October	13	Supporting IT-Enabled Collaboration
		14	Supporting Knowledge Work
		15	The Opportunities and Challenges Ahead
12	5 November	n/a	<ul style="list-style-type: none"> • Good, Better, Best – from an IT Department perspective • Review case study (presentations/reports) • Course summary & feedback
	12 November	n/a	<p style="text-align: center;">Final Exam</p> <p>6 p.m. (same as lecture time)</p> <p>Venue = TBA (computer lab at Macquarie)</p>

The course covers the following areas:

- **Leadership Issues** - Chapters 2, 3 and 4; and 'Good, Better, Best'
- **Managing The Essential Technologies** - Chapters 5, 6, 7 and 8
- **Managing Systems Development** - Chapters 9, 10 and 11
- **Systems For Supporting Knowledge Work** - Chapters 12, 13 and 14
- **Thinking ahead** - Chapter 15

1.9 Unit Grading – Summary

Students will be graded as follows:

- Class Participation - 25%
- Research Paper - 25%
- Final Examination - 50%

Note: Students must pass the final exam to pass the Unit

- TOTAL 100%

Failure to pass the final exam will result in the student being given a mark commensurate with their exam mark.

2 Unit Schedule – Detail

2.1 Lecture 1 – 6 August

2.1.1 The Importance of Information Systems Management

This lecture / chapter traces the growing importance of information systems management and presents a conceptual model to show the key areas, how they fit together, and the principal issues for CIOs in each area.

It sets up the context for the book: first by describing today's business organizational and technical environment; second by describing a framework for viewing the work of the IS organization; and third by describing an IS organization's evolution from 1985 to present.

MeadWestvaco, described from the mid-1980s to the present, is a case example of how these areas are being implemented in an IS organization.

2.2 Lecture 2 – 13 August

2.2.1 The Top IS Job

The responsibilities of the head of the IS function now go far beyond operating highly efficient "production programming shops."

These executives must understand the goals of the enterprise and work in partnership with line executives to deploy IT to attain the organization's goals.

This lecture / chapter discusses the top IS executive's job, looking first at the top job itself by summarizing six major responsibilities, and then exploring several ways the information systems function is evolving in organizations.

The SABRE system, Lifescan, BP, Aetna Life and Casualty, Duke Energy International, AXA Financial, Wal-Mart Versus K-Mart, and Rexam provide examples of how the role of systems management is changing.

2.3 Lecture 3 – 20 August

2.3.1 Strategic Uses of Information Technology

Many IT experts would argue that by now IT has to be aligned with companies' businesses or be used to create new added value in order to keep companies successful. Questions remain:

- Has the revolution ended?
- Does an even larger revolution loom?
- Does IT still matter strategically?
- What strategic uses are companies making of IT and the Internet in particular?

This lecture / chapter addresses those questions.

Strategic roles of IT fall into one of three categories:

1. “working inward” (improving a firm’s internal processes and structure),
2. “working outward” (improving the firm’s products and relationships with customers) and
3. “working across” (improving its processes and relationships with its business partners).

Stated simply, the strategic value of IT comes from communication, which allows companies to reorganize and integrate business processes within and across boundaries.

With the rapid growth of the Internet, a public network with low communication costs, many of the traditional strategic systems are being replaced with Internet-based, e-business applications.

Grainger, GE Power Systems, The Shipping Industry, Cisco Systems and UPS Supply Chain Solutions, A Day in the Life of an E-lancer, General Mills and Land O' Lakes, Sara Lee Bakery Group, and Dell Computer versus HP provide examples of how companies are using information systems in strategic roles.

2.4 Lecture 4 – 27 August

2.4.1 Strategic Information Systems Planning

IS management, especially strategic systems planning, is becoming more difficult and more important at the same time. Technology is changing so fast that it is seems futile to plan for it, yet the dependence on this technology makes planning its effective use a matter of organizational life and death.

This lecture / chapter contrasts the traditional view of planning with the sense-and-respond approach of strategy-making, presenting eight IS planning techniques.

Case examples include Microsoft, Skandia Future Centers, Shell Oil, an automobile manufacturer, Cisco Systems, Electric Power Research Institute, and scenarios on the future of IS management.

An important point to remember is that planning does not necessarily mean determining what decisions to make in the future. Rather, a better view of planning is developing a view of the future that guides decision making today. This seemingly subtle difference turns out to be significant in the way that managers approach and execute the planning process.

2.5 Lecture 5 – 3 September

2.5.1 Designing Corporate IT Architecture

This chapter discusses the concepts of IT architecture and IT infrastructure and describes types of enterprise distributed systems.

Case examples include an aerospace company, IBM, Nokia, Sabre, 3i, General Motors, FMC Corporation, and Credit Suisse.

An IT *architecture* is a blueprint. An IT *infrastructure*, on the other hand, is the implementation of an architecture. Today, people talk about IT infrastructures and the applications that operate on those infrastructures. The first IT architecture was mainframes doing all the processing with dumb terminals providing some input and output. Today, devices of all sizes handle input-processing-output – a much different architecture.

2.6 Lecture 6 – 10 September

2.6.1 Managing Telecommunications

Telecommunications is the flow of information among individuals, work groups, departments, customer sites, regional offices, between enterprises, and with the outside world.

The Internet has also opened up a “cyberspace” where people can be in a virtual world, where organizations can conduct business, and in fact, a place where organizational processes exist, providing the foundation for the e-business economy.

This lecture / chapter discusses the evolving telecommunications scene, utilizing case examples from National Semiconductor, Toronto Pearson International Airport, BMW, American Greetings, and Keebler.

2.7 Lecture 7 – 17 September

2.7.1 Managing Corporate Information Resources

This lecture / chapter explores the management of data and information.

It begins by identifying some problems related to data management, and then surveys the evolution of database management systems.

It explores the various types of information that companies need to manage as they treat information as an organizational resource including web content.

Case examples include Owens & Minor, Tapiola Insurance Group, Tennessee Valley Authority, Eastman Chemical Company, and Groove Networks.

2.7.2 Managing Partnership-Based IT Operations

This lecture / chapter discusses major issues related to managing partner-based IT operations, including solving operational problems and establishing measures and good management, as well as current trends.

A second focus of the chapter is the detailed discussion of IT Functions Outsourcing.

Case examples include Microsoft, ANZ Banking Corporation, Eastman Kodak and Hewitt Associates.

2.8 Lecture 8 – 8 October

2.8.1 Technologies for Developing Effective Systems

This lecture / chapter reviews the evolution of system development. It discusses underlying technologies, development methodologies, Internet-based systems, and project management.

Case examples include Du Pont Cable Management Services, MGM, Colgate-Palmolive, ExxonMobil, Hong Kong Exchanges and Clearing, a company building a web service and Berkins Home Direct USA.

2.9 Lecture 9 – 15 October

2.9.1 Management Issues in Systems Development

This lecture / chapter discusses issues IS management faces when developing systems:

- project management,
- successfully implementing systems (change management),
- ways to replace legacy systems, and
- measuring the benefits of systems.

Case examples include A Day in the Life of an IT Project Manager, The BOC Group, Dow Corning, Verizon Directories, Amazon.com, Toyota Motor Sales, Wachovia and a trucking company.

2.10 Lecture 10 – 22 October

2.10.1 Managing Information Security

This lecture / chapter discusses the management of information security.

It provides an overview of threats and scope and principles of security management.

It then introduces tools and countermeasures, as well as business continuity planning.

Case examples include Credit Card Fraud, an Internet Services Company, and UT Austin's response to data thefts.

2.10.2 Supporting Information Centric Decision Making

This lecture / chapter discusses technologies for supporting decision making:

- decision support systems (DSS),
- data mining,
- executive information systems (EIS), and
- expert systems.

It then discusses IT issues related to creating the real-time enterprise.

Case examples include: a problem-solving scenario, Ore-Ida Foods, a major services company, Harrah's Entertainment, Xerox Corporation, General Electric, American Express, Delta Air Lines, a real-time interaction on a website, and Western Digital.

2.11 Lecture 11 – 29 October

2.11.1 Supporting IT-Enabled Collaboration

This lecture / chapter discusses various kinds of groups and the types of systems that support their collaborations.

Special sections emphasize technology support for workflow, negotiations, and emergency response.

It ends by discussing managing collaboration in virtual organizations.

Case examples illustrating collaboration include DaimlerChrysler, The Open Source Movement, Texas Instruments, HICSS, and Boeing-Rocketdyne.

2.11.2 Supporting Knowledge Work

This chapter isolates two of the most illusive, yet important, topics that relate to supporting knowledge work:

- managing knowledge and
- computer ethics.

Managing knowledge means encouraging people to share knowledge in a form that others can easily access, as well as customer knowledge and researchers' knowledge – and how to embed this outside knowledge in a real-time system. Under this topic are the intellectual capital issues of valuing intellectual property, usage, and sharing knowledge.

Computer ethics deals with such areas as information privacy, intellectual property rights and other legal, ethical, and issues relating to information and knowledge. Old laws and regulations were written before the computer age, yet they are being applied to today's software, challenging the applicability the entire realm of intellectual capital challenges.

Case examples involving knowledge work include Buckman Laboratories, BP, a Pharmaceutical Company, Skandia Future Centers, a U.S. Energy Company, a North American bank, Partners HealthCare System, and Clickwrap Agreements.

2.11.3 The Opportunities and Challenges Ahead

This lecture / chapter discusses:

- opportunities and challenges associated with current hot issues,
- organizing principles that aim at success of organizations in the e-economy,
- differences between the networked and non-networked world and the importance of those differences, as well as
- guidelines for business and IT leaders.

Case examples include National Semiconductor, Sun Microsystems, Semco, S.A., and Capital One.

2.12 Lecture 12 – 5 November

2.12.1 Good, Better, Best – From an IT Department perspective

In this extract from his award winning course, Michael relates his experience and observations in relation to professionalism and success in the IT industry. A few of the 'stories' come from his own experience but most come from a number of his colleagues and friends, many of whom have been very successful 'professionally' and, equally importantly, they have been successful personally.

Originally developed as a training course for 'new hires' at KPMG called 'Things I Wish My Partners and Managers Had Told Me'; it developed into 'Good, Better, Best'. In addition to the IT Department version there is also a generic 'team' version along with versions for Professional Services Firms and Internal Audit Departments.

This IT Department version has been developed with significant input from some of Australia's and America's leading IT professionals. Matthew and Matthew sincerely appreciate their input and contribution.

As this is the last lecture for the course it will also cover revision of the semester and 'critique' of the assignments.

3 Unit Grading

3.1 Class participation

'Class Participation' will consist of both a student's actual participation (contributing to discussion, answering questions etc.) during the formal 'lectures' combined with the quality of their 'homework' which will be required to be submitted each week.

3.1.1 'Homework'

At the conclusion of each lecture, students will be given their 'homework' assignments, which will consist of the following:

- Summarise what you believe are the key five points of (each of) the chapter(s) covered by the lecture. These will be the five most important points in the lecture/chapter, as you perceive them. Include in your answer why you believe each point is important.
- Answer a series of 'Review' and 'Discussion' questions at the end of each chapter as set by the lecturer following each lecture.

Students should bring two copies of their homework to the following week's lecture. One of these copies is for the student to use during discussion etc. The other will be handed in to the lecturer for assessment. Your name, student id and signature should be on the front page.

An example 'front page' is included on the Unit Blackboard site.

3.1.2 Assessment

This is an evaluation of your contribution in class to the discussion of the lectures/textbook and questions set along with your submitted formal (written) answers.

Of the 25% allocated to class participation, half will be based students' marks for homework.

Contributions in class will be prorated weekly with the following being an indication of the marks a student can expect to receive:

- 12.5% - Asks good questions, makes valuable observations and answers questions effectively on an ongoing basis.
- 9% - A frequent participant, but all questions, answers or observations are not always effective.
- 6% - Only participates infrequently or questions/answers do not reflect adequate preparation.
- 3% - Very rare preparation or questions/answers reflect little or no preparation or very late to class.
- 0% - Displays no sign of life or absent for the entire class.

Students are expected to attend class and participate.

Not attending class will have an influence on this portion of a student's grade since they can't participate if they don't attend.

Students are also expected to provide homework on the scheduled dates (the lecture following). Failure to provide homework will mean that students cannot earn marks for those weeks missed.

3.2 Research Paper

This paper is worth 25% of assessment and is to be submitted following Lecture 10 (22 October).

3.2.1 The required paper: Problems with Systems Implementations – and How to ‘Solve’ Them

Background

Your first job after graduating from Macquarie University is that of Special Projects Analyst for Carringbush Limited – a very successful and highly profitable mid sized company in Australia (500+ employees).

Due to your special ‘dual skills’ of Information Technology and Finance skills you do work for both the Chief Financial Officer and the Chief Information Officer.

The Problem

Carringbush are to implement a new ERP (Enterprise Resource Planning) system for the whole of their organization.

Whilst impressed with the large products like SAP and Peoplesoft Carringbush thought these would be ‘overkill’ and way beyond their budget so they have settled for a ‘mid’ ERP package solution.

They are impressed with the software company and the consultants they have recommended to implement the new system but the CFO has some ‘nagging doubts’ having read a number of articles about ERP installations that go horribly wrong and wind up costing far more than expected with not all the expected functionality delivered.

He has asked you to do some research Carringbush in this area.

Your Mission

You have been asked to research systems failures, the typical reasons for and what organizations should have done / should do to avoid such disasters.

Deliverables

Specifically, he has asked you to come up with a report containing:

- A commentary on systems installation ‘failures’ including case examples for senior executives to read and get an accurate picture of what the truth is in this area, what potential problems may exist, and
- What Carringbush should do in order to avoid such problems

3.2.2 The 'rules' for undertaking this project

The paper is to take a team approach so students will need to work with other class members. Teams of four are preferred.

Please note the following:

- The paper should not exceed 6000 words
- You are able to use any e.g. graphics you want. Feel free to be creative.
- 2 copies of the paper should be submitted. The 2nd should be 'electronic' – on e.g. CD.
- The paper should contain a cover sheet that shows the name of each member of the team along with the proportionate contribution made by each member (if the latter is omitted it will be assumed that each team member made an equal contribution).
- The student id and signature of each team member should also be on this cover sheet.
- Note that the paper can be divided between members of the team. It is not necessary for each team member to work on each section of the project.
- The mark for the project will be awarded to each team member with an adjustment in instances where not all team members contributed equally.
- Whilst the assignment should follow academic standards in relation to non-plagiarism, recognition of sources etc.; the report presented should be of a professional (business) standard in terms of content and layout. It should include:
 - A Table of Contents
 - An Executive Summary
 - Appropriate use of headings, sub headings etc.
 - **Single spacing** and no 'widows and orphans' (paragraphs that go over a page)

3.3 Examination

The examination is worth 50% of the unit's assessment.

Note: Students must pass the final exam to pass the Unit

Failure to pass the final exam will result in the student being given a mark commensurate with their exam mark.

The exam will be held at 6.00 p.m. on Thursday 12 November. It will be held in a computer lab at Macquarie University's North Ryde campus.

It will be an 'online' (typed on a computer) exam.

Calculators are not necessary and are not permitted in the exam.

Normal paper dictionaries are permitted in the exam. No electronic dictionaries or electronic devices of any type are permitted in the exam.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at www.reg.mq.edu.au/Forms/APSCon.pdf

You are advised that it is Macquarie University policy not to set early or delayed examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester, that is the final day of the official University examination period, and can attend the exam at the designated time and place.

4 University Policies and Support Services

4.1 Plagiarism

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the *Handbook of Postgraduate Studies* or on the web at:

<http://www.student.mq.edu.au/plagiarism>

The policies and procedures explain what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

4.2 Student Support Services

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at <http://www.student.mq.edu.au>

5 Visiting Lecturer Information

Michael Matthew, Principal, Matthew and Matthew

mandm@bigpond.net.au

Formerly a partner with a 'Big 4' accounting firm responsible for their Risk Management practice in Sydney, Michael left in September 1998 to form his own Business Consulting practice, Matthew and Matthew with his similarly qualified wife.

Matthew and Matthew is a niche business consulting firm whose range of services includes providing outsourced finance department services (accounting) to a range of companies including Australian subsidiaries of foreign companies.

They also specialise in writing customised training courses for organisations on things like:

- Leadership and teamwork
- Report writing
- Sales and proposal writing
- Finance for non-finance executives

Michael also still practices in the project management area including acting as a project manager / 'angel'. Michael specialises in running facilitation sessions for companies in terms of planning (IS and other) and helping resolve problems, particularly with projects that have 'run off the rails'.

One of Michael's major clients was the Technology Advisory practice of KPMG where he operated as a 'skills coach' for Australia and New Zealand for 9 years.

Other current and recent clients that he is 'allowed' to tell us about (i.e., they weren't clients where he was called in to look at 'sick' projects) include:

- National Insurance Brokers Association (NIBA)
- Macquarie University
- Premier Media Group (Fox Sports)
- News Limited
- Australian Rugby League Foundation
- KPMG
- IAG
- Fox Studios Australia

Michael is described as an 'interesting' and entertaining speaker who has won numerous best paper awards. He 'lives' by the creed of his hero: Jesse 'The Body' Ventura (ex-WWE wrestler, former Governor of Minnesota and perennial U.S. Presidential aspirant): **"You've gotta tell it like it is"!**