

Victoria University of Wellington



MASTER OF PUBLIC ADMINISTRATION (Exec)

PADM 504

Decision Making Under Uncertainty

2005 Course Outline

(First Trimester course – 24 points)

This course is co-ordinated and delivered by the Australian New Zealand School of Government (ANZSOG) of which Victoria University is a participating partner.



the Australia and New Zealand

School of Government

DECISIONMAKING UNDER UNCERTAINTY: EVIDENCE-BASED ANALYSIS

SUBJECT OUTLINE 2005

SUBJECT OVERVIEW

This subject examines the use of qualitative and quantitative information, methods and evidence to support decisionmaking in the public sector. The course assists students to become more critical users of information and evidence and to develop skills in commissioning research and analysis to inform decisionmaking.

Professors Claudia Scott and Glenn Withers are subject leaders for this course. The broad scope and coverage of the course and assessments will be the same across all ANZSOG jurisdictions. There will, however, be a small degree of tailoring of the course to draw on the expertise of local lecturers, practitioners and specialists and to facilitate consideration of issues and applications relevant to each jurisdiction.

Learning Outcomes for the Subject

Those completing this subject will:

- Be able to accurately use, interpret and draw inferences from information gathered as evidence to support decisionmaking;
- Be aware of the strengths, weaknesses and suitability of selected quantitative and qualitative methods for gathering evidence;
- Know how to commission information gathering and analysis to support management and policy decisionmaking;
- Understand how the system and organizational context affects the use of evidence and analysis in decisionmaking;

Assessment tasks

General Guidelines

In all assessable work, full acknowledgement of sources used is required - both for general referencing and for quotation. Plagiarism is unacceptable in any format. This also applies to other assessment exercises and students should accept that software (eg “Turn-it-in”) may be used routinely to vet material submitted.

The assessment tasks are common to all jurisdictions, but will be marked locally. Grades may be moderated by the Subject Leaders to establish consistency and fairness across cohorts and jurisdictions, if required.

All assessable work is compulsory. If, because of illness, a participant is unable to complete work, or sit a quiz or exam at the scheduled time, a medical certificate must be produced. Other exceptional circumstances affecting capacity to complete assessment should be discussed with the relevant lecturer. Supporting attestation, for example a work supervisor’s written explanation, may be required. Penalties will apply where no adequate exception is established. Applications for exception should be made to your local lecturer with a copy to c.barker@anzsog.edu.au about any agreement reached.

Assessment work for submission will be penalised by a point per day late, unless waiver for good reason (such as illness) is arranged with the coordinator. Essays, reports and assignments should be typed or neatly presented and submitted direct to ANZSOG by c.o.b. on the date due. Essay text in excess of the stipulated word length will be ignored by the instructor. Word count does not include footnotes, references or appendices. Harvard citation is preferred e.g. Smithson (2002).

Submit your assignments to Amy Gibbs at assignment@anzsog.edu.au.

First Assessment:

Short In-Class Test (10%)

Sydney: Tuesday 15 March

All Other: Friday 18 March

The short test will consist of 10 true/false and 10 multiple choice questions, based on concepts and information from readings and class presentations during Module 1.

Second Assessment:

Improving Evidence for Decisionmaking, 2000 word maximum (25%)

Due: Monday 4 April

Examine and evaluate the role of evidence in supporting decision-making in your organisation (or part thereof) or in another organisation with which you are familiar. Suggest new ways of creating or using evidence that could improve organisational effectiveness. Consider and outline ways in which modifying organisational processes, roles and requirements could enhance the role of evidence in decisionmaking in this organisation.

Third Assessment:

Take Home Assignment (25%)

Due: Sydney – Friday 22 April

All Other – Friday 29 April

This will comprise a take home assignment which includes questions relating to statistical methods, correlation and regression and their application and interpretation to specific case studies.

Fourth Assessment:

Syndicate Report and Presentation (40%)

Part 1 – Presentation - Day 5 - 10% for a short presentation, followed by questions.

Part 2 – Written Report - Due: Friday 10 June - 30% for a written report (3000 word maximum).

Each syndicate group will be assigned or may nominate a topic in cost-benefit analysis - Where a nominated topic is proposed it is subject to approval by the lecturer. The syndicate must evaluate the strengths and weaknesses of applying cost benefit analysis to address this topic and comment on whether other methods of analysis are preferred.

The assessment result is shared among all students in the syndicate.

Further information on the project and the presentation will be provided at Module 2.

Course Readings

This course does not have a set text. Instead, a set of readings has been prepared drawing on articles, book chapters and other sources. The readings provide information on specific methods and approaches and include examples of data, information and evidence being applied in a specific decisionmaking context.

Readings are listed below under each session in order of priority.

Students are also provided with a CD MBA Survival Kit: Statistics Interactive, McGraw-Hill

Outline of Sessions

Full attendance by participants is expected for all sessions of the subject, except for unexpected problems. In this latter case appropriate notification of such to the local co-ordinator is required. A record of attendance will be maintained and work in lieu of attendance may be required by the local lecturer.

Day 1. Information, Risk and Evidence-Based Decisionmaking

Morning

Session 1. The concept of evidence-based decisionmaking

What is information and evidence? What is analysis and decision-making? What is evidence-based policy and management decision-making (in Australia, NZ and in other countries)? How does evidence-based analysis relate to intuition, experience and instinct and competing rationalities?

Readings:

Spradlin T. A Lexicon of Decisionmaking

Nutley, S. Davies, H. and Walter, I. 'Evidence-Based Policy and Practice: Cross Sector Lessons from the UK', Social Policy Research and Evaluation Conference, Wellington, New Zealand, April 2003. Resources:

Gupta, D. Analyzing Public Policy, Concepts, Tools, and Techniques, CQ Press, 2001, chapter 4 Critical Thinking and Research Design

Bazerman, M. 'Improving Decision Making' in Judgment in Managerial Decision Making, New York: John Wiley, Fifth Edition, pp. 152-67.

Newstead S. and Cameron, S. Evaluation of the Crash Effects of the Queensland Speed Camera Program, Monash University Accident Research Centre, Report No. 204, September, 2003, 43 pp.

Session 2. An overview of qualitative information

Characteristics, strengths and weaknesses: attitudinal surveys, focus groups, Delphi technique, field research, consultations, enquiries, hearings, commissions, expert testimony; media analysis.

Readings:

C. McDaniel Jr and R. Gates, Contemporary Marketing Research, Cincinnati, South Western Publishing, 1999, pp. 123-59.

Miles, M. and A. M. Huberman, Qualitative Data Analysis: An Expanded Sourcebook. Sage Publication, 1994. pp. 1-15.

Ertmer, P. in P. Leedy, Practical Research Planning and Design, New Jersey, Prentice-Hall, pp. 155-72.

Afternoon

Session 3. An overview of quantitative information

Characteristics, strengths and weaknesses: official statistics, censuses and objective surveys; cross-section, time-series, longitudinal data; clinical trials; natural experiments; pilots.

Readings:

Moutinho, Goode & Davies, Data Collection and Sampling, *Quantitative Analysis in Marketing Management*, J. Wiley & Sons, 1999, pp. 7-43.

Measuring Australia's Progress to 2002. See: www.abs.gov.au and follow link on the homepage

Many websites exist which provide national and/or cross-national data bases to support analysis and decisionmaking;

Observatory on Health Care Systems: <http://www.euro.who.int/observatory>

New Zealand Data Sets: <http://www.stats.govt.nz/datasets/default.htm>

Summers-Heston Penn World tables: <http://pwt.econ.upenn.edu/>

Session 4. Risk and uncertainty

The distinction between risk and uncertainty; decision trees; the application of risk and uncertainty in policy environments.

Readings:

Stokey, E. and Zeckhauser, R. A Primer for Policy Analysis, chapter 12, pp. 201-236

J. Adams, Cars, Cholera and Cows: The Management of Risk and Uncertainty, Policy Analysis, No. 335, March, 1999, pp. 1-49.

I. Castles and D. Henderson, Economics Emissions Scenarios and the work of the IPCC. Energy and Environment, 14(4), pp. 415-35.

Day 2. The Use of Information and Analysis to Support Public Sector Decisionmaking

Morning

Session 5. Infrastructure projects and risk

Issues and applications surrounding the financing and management of public investment projects.

Readings:

Flyvbjerg, B., Lburzelius, N. and Rothengatter, W 'Dealing with Risk' in Megaprojects and Risk: An Anatomy of Ambition, Cambridge University Press, 2003, pp. 73-85.

Quiggin, J. 'Risk, PPPs and the Public Sector Comparator', Australian Accounting Review; Jul 2003; 14, 2.

Session 6. Research methods

The nature of research; scientific method; hypotheses; the elements of a good research proposal; Ethics in information collection

Readings:

Blaxter, L. Hughes, C. & Tight, M. 'Thinking about Methods', Chapter 3, Open University Press, Buckingham, 1996.

Gill, J. and Johnson, P. Research Methods for Managers 3rd Edition, Sage Publications, 2002, pp. 28-46

Selltiz, C., Wrightsman, L. and Cook, S. Research Methods in Social Relations, 3rd edition, Holt-Saunders International Editions chapter 2, 1976, pp. 15-48.

Afternoon

Session 7. Commissioning Information, Research and Analysis

Commissioning and contracting of information, research and analysis; Using information.

Reading:

L. Dobes Handbook on Commissioning

Session 8. Case Study Discussion (and in-class test)

Students will discuss one or more short case studies and explore the link between information, analysis and decisionmaking.

Day 3. Methods to Support Evidence-Based Analysis

Morning

Session 9. Basic statistical methods

Measures of central tendency and dispersion; probability and hypothesis testing sample size and precision

The CD, *Statistics Interactive, MBA Survival Skills (McGraw Hill)* is the principal teaching tool for sessions 9-11.

Session 10. Correlation and regression (1)

Simple correlation; bivariate regression.

The CD, *Statistics Interactive, MBA Survival Skills (McGraw Hill)* is the principal teaching tool for sessions 9-11.

Afternoon

Session 11. Correlation and regression (2)

Multivariate regression including simple causality testing

The CD, *Statistics Interactive, MBA Survival Skills (McGraw Hill)* is the principal teaching tool for sessions 9-11.

Session 12. Case studies in empirical methods

Illustrative applications of statistical methods, regression and /or modelling to public management and /or policy problems plus preliminary syndicate discussions for group project: logistics and roles.

Readings:

Kaushal, N. and Kaestner, R. From Welfare to Work: Has Welfare Reform Worked? Journal of Policy Analysis and Management Spring, 2002, Vol 20, Number 4, pp. 699-719.

Ladd, H. and Fiske, E. (2001) The Uneven Playing Field of School Choice: Evidence from New Zealand, Journal of Policy Analysis and Management, Vol. 20, No. 1, pp. 43-64.

Quigley, J. Does Rent Control Cause Homelessness? Taking the Claim Seriously, (1990) Journal of Policy Analysis and Management, (1990), Vol 9, No 1, pp. 89-93.

G. Withers, 1987 Migrants and the Labour Market: The Australian Evidence, in Future of Migration, OECD, Paris, 1987.

Day 4. Frameworks for Evidence-Based Decision-making

Morning

Session 13. Modelling

Representing, and estimating economic, social, environmental relationships, business and government processes. The use of models.

Readings:

Maani, K. and Cavana, R.(2000) Systems Thinking and Modelling, Understanding Change and Complexity, New Zealand: Prentice Hall.

Pidd M., Tools for Thinking – Modelling in Management Science,1996, John Wiley & Sons, Chapter 1, pp. 5-30.

Anderson M., Quantitative Management Decisionmaking: with Models and Applications, Brooks/Cole Publishing Company, chapter 15 Queuing Models

Session 14. Multi-criteria analysis

Frameworks for assessing options against multiple performance criteria using both objective and subjective information.

Readings:

Mabin, V. and Menzies, M. Public Sector Priority Setting Using Decision Support Analysis, Australian Journal of Public Administration, 60(2), pp. 44-59, June 2001.

DTLR multi criteria analysis manual See: www.gov.uk and search under Multi Criteria Analysis. Look at chapters 4 & 6.

Afternoon

Session 15. Cost-benefit analysis: theory

The cost-benefit analysis framework and its major elements eg benefit measurement, cost measurement, discount rates, cost-effectiveness, treatment of uncertainty and equity, sensitivity analysis.

Reading:

Abelson, op.cit. chapter 7, pp.117-140

An example of a recent official guide to Cost Benefit Analysis and Evaluation UK Department of the Treasury, Appraisal and Evaluation in Central Government (the Green Book) London, 2003. http://www.hm-treasury.gov.uk/economic_data_and_tools/greenbook/data_greenbook_index.cfm

Session 16. Cost-benefit analysis: practice

Lecturers will discuss a number of applications of cost-benefit analysis.

Szeto, K. and Devlin, N. (1996) The Cost-effectiveness of Mammography Screening:

Evidence from a Microsimulation Model for New Zealand, Health Policy, 38(1996) 101-115.

Applied Economics (prepared by Peter Abelson) 2003, Returns of Investment in Public Health: An epidemiological and Economic Analysis, Department of Health and Ageing, Canberra, ISBN 0 6428219 1 7 See www.health.gov.au. Go to "Search" and on Search page use link "See an A-Z listing of our major publications". Look under "R" for "Returns of Investment...". Read chapters 1 & 6.

Day 5. Special Methods and Syndicate Presentations

Session 17. Scenario planning and futures analysis

Frameworks and techniques for gathering information about the future for organisational and policy development.

Readings:

P. Schoemaker, "Scenario Planning: A Tool for Strategic Thinking", Sloan Management Review, Winter 1995. pp. 25-39

Cabinet Office, A Futurist's Toolbox: Methodologies in Futures Work, September 2001.

Session 18. Selected Topic

Local lecturers may present a selected topic in an area – such as: operations research in management; experimental methods in policy; statistical forecasting or futures techniques; game theory; behavioural analysis

Alternatively, an expert practitioner may be invited to address a theme or discuss work in their agency or present a major case study.

Session 19. Syndicate Presentations

Session 20 *Syndicate Presentations on selected topics*

TIMING AND VENUE

A light lunch and morning and afternoon teas will be provided to students attending this subject.

Brisbane 8.30 am to 5.30 pm on:
Thursday 17 March, Friday 18 March; Friday April 8; Friday 6 May;
Friday 27 May

Venue: Boardroom S02_7.16
Level 7
Webb Centre

**Griffith University (Southbank Campus)
226 Grey Street
Southbank**

Canberra 8.30 am to 6.00 pm on:
Thursday 17 March, Friday 18 March; Friday April 8; Friday 6 May;
Friday 27 May

Venue: Look for teaching room on daily noticeboard of foyer,

**Sir Roland Wilson Building,
No.120 McCoy Circuit,
The Australian National University
Canberra, ACT, 0200**

Melbourne 8.30 to 5.30 pm on:
Thursday 17 March, Friday 18 March; Friday 1 April; Friday 6 May;
Friday 27 May

Venue: 17 March, April 8, May 6 – **Rio Tinto theatre**
18 March, 27 May – **Cohen theatre**

**Melbourne Business School
200 Leicester St
Carlton**

Sydney 8.30 to 5.30 pm on:
Monday 14 March, Tuesday 15 March; Thursday March 31 ; Wednesday 4
May; Thursday 26 May

Venue: **Australian Graduate School of Management
Level 6
1 O'Connell St
Sydney**

Wellington 9.00 to 6.00 pm on:
Thursday 17 March, Friday 18 March; Friday April 8; Friday 6 May;
Friday 27 May

Venue: **RH MZ10
Mezzanine Floor
Rutherford House
Victoria University of Wellington
Pipitea Campus
Lambton Quay**

COURSE COORDINATORS AND LECTURERS

The course coordinators for the subject are as follows:

Brisbane: Dr John Forster, Griffith University
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Canberra: Professor Glenn Withers, Australian National University
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