Napier University

1. Introductory seminar: 13 January 2010

1.1 Group Feedback forms

- **In what ways do you think you could benefit from being a member of AQM*e*N?**

  Training for PhD students
  Advanced data analyis skills to enhance ability to enhance interpretation of data
  Advice when there are issues during data analysis/interpretation
  Improve my teaching and research – would like to develop a higher level knowledge beyond tests such as ANOVA, t-tests, regression etc
  SPSS, SAS, STATA etc…
  Training
  Potential collaboration
  Awareness of software/datasets
  Transfer of knowledge from self to others, e.g. six sigma into local authorities
  Access to expertise
  My staff getting well trained in advanced techniques
  Specialist support/learning in databases and techniques
  PhD student support/teaching

- **What type of live events would you be interested in attending?**
  e.g. Lectures, Seminars, Workshops…

  Workshops in using SPSS, analysing data and interpretation
  Seminars by people who have used SPSS to show results and their reflection on experience in analysis
  Would prefer workshops where I get to practice using a method but would consider lectures or seminars if it was relevant to me
  Hands on training
  Mixed Modelling, simulation and Structural Equation Modelling

- **Are there any specific courses you would be interested in?**
  Particular methods, software, techniques...

  SPSS
  Would like to refresh my knowledge of structural equation modelling using the EQS package.
  2/3 stage regression techniques or remedy to causality issues
  R
  STATA
  Advanced Used of SPSS
  Structural Equation Modelling

- **What features of the website would you use?**

  All and would encourage students to use
  Events pages mainly and also the members list.
  Might not use the forum much
  Events

Contact list
Resources – archives of training material
BASIC aspects of techniques

- **What type of online learning would be most useful to you?**
  e.g. Video lectures, audio, powerpoint, demo, interactive courses…

  Demo and interactive courses – don't like video lectures much
  Interactive courses
  Video lectures
  Access to learning material – notes and examples

Notes from discussion at seminar

Kaye Penny – ambitious to offer stats advisory service for whole of Scotland

1.2 Attendees

Kathy Charles	Health & Social Sciences
Maktoba Omar	Marketing
M Minhat	Accounting
Kay Penny	Statistics
Sandra Bonellie	Statistics
Phil darby	Statistics
Robert Raeside	Statistics
Maneesh Kumar	Six Sigma - Operations
J Canduela	ERI
Piotri Jaworski	SAES
Ron McQuaid	ERI
Lois Farquharson	Management & Law

Convened by Robert Raeside

1.3 Discussion with Robert Raeside after seminar

Expertise and teaching:
Advanced stats for engineering, teaches companies too.
Demography, population forecasting, life tables, survival analysis, GLMs
Mainly uses SPSS and some STATA and SAS

Software: Napier have very good deal on SAS and available across university. They are an 'academic partner' of SAS. MSc in Applied Stats included SAS teaching – many students go on to government or finance industry and use SAS.

Datasets: used Scottish Health Survey and Scottish Household Survey, also European Values Survey, British Household Panel Survey and STATS19 (road transport data available from ESDS). Particularly interested in comparing results over time.

Quantitative teaching:
MSc in applied stats will be restarted.
Business school: Small amount of stats in 'Research Methods' module, mainly intro to SPSS and survey analysis, short session on using logistic regression.
Health faculty – small amount of basic teaching, statisticians contribute to this, potential for their PhD students to use much more in their research but supervisors need training too.
Stats dept does modules for business studies and life sciences.

Sees big demand for research student training.

Teaching materials potentially available:
Sandra Bonelli – stats modelling material on her website
Phil Derby – video based material
Material on 'Statistically Informed' website, pilot project by Robert with material to raise capacity in local authorities, 4 LA partners, one Bob Shield from West Lothian).

Events suggested for AQMeN Napier
Datasets training
Advanced SPSS

General
Though partner responsibilities were unclear.
Willing to contribute to PhD event, using data from Scottish Household (or Health) Survey.
Good training facilities – rooms with and without PCs, lecture theatre for about 200.
Didn't see problem with charging for attendance, could get around by registering delegates as students.

2 Survey Results

Discipline

	N	%
Biology and Life Sciences	1	7.7
Economics, Finance, Management, Business, Marketing	1	7.7
Law and Criminology	1	7.7
Other	1	7.7
Politics, Employment Research	1	7.7
Statistics	5	38.5
Transport	3	23.1
Total responding	13	100.0

General level of expertise in quantitative methods

	N	%
1.Not given	2	15
3.Beginner level in at least one descriptive method	1	8
5.Intermediate level in at least one advanced method (beyond linear regression)	4	31
6.Advanced level in at least one advanced method (beyond linear regression)	6	46

How would you describe yourself?

	N	%
	7	53.8
Professional statistician	1	7.7
Regular user of quantitative methods	3	23.1
Occasional user of quantitative methods	2	15.4
Total responding	13	100.0

Note: This question was added later and only some respondents have answered

Expertise: Descriptive quantitative analysis

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Frequencies, cross-tabulation, means etc	77	15	.	.	8
Comparing frequencies or means	77	15	.	.	8
Graphical output (eg bar-charts, histograms, pie-charts etc)	62	31	.	.	8
Transforming data distributions (eg log, quadratic)	31	15	31	8	15
Indices of inequality (eg GINI index)	8	15	15	46	15
Measures of association (eg correlation)	38	46	8	.	8

Expertise: Regression analysis

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Simple/multiple linear	46	23	8	8	15
Log-linear	31	15	23	8	23
Logistic/ordinal/multinomial	31	15	15	15	23
Other (eg poisson, negative binomial)	23	15	8	31	23

Expertise: Longitudinal analysis

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Event history analysis	15	8	8	38	31
Times series analysis	8	38	.	23	31
Trajectory modelling	.	8	8	54	31
Other longitudinal analysis	.	8	15	46	31

Expertise: Grouping analysis

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Principal components/factor analysis	31	31	15	8	15
Cluster/classification analysis	31	23	15	8	23
Latent class analysis	.	8	23	31	38
Multi-dimensional scaling	.	15	23	31	31

Expertise: Other complex analysis methods

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
Probability, set theory, matrix algebra	8	23	15	31	23
Multi-level modelling	.	23	.	46	31
Structural equation modelling	.	23	15	38	23
Spatial analysis/modelling	.	15	15	46	23
Geographically weighted regression	.	15	.	62	23
Econometric techniques	15	15	8	38	23
Simulation and risk analysis	8	8	8	54	23
Missing value analysis/imputation	.	15	23	38	23
Content analysis (eg NVivo)	8	.	31	46	15

Expertise: Software packages

	Percentage respondents with each level of expertise				
	Advanced	Intermediate	Beginner	Non user	Not given
SPSS	38	54	.	.	8
Stata	.	8	23	46	23
SAS	8	23	8	31	31
R/S/SPlus	.	.	23	38	38
Minitab	23	8	23	23	23
GAUSS	.	.	.	62	38
Amos	.	8	8	54	31
Lisrel	.	.	8	54	38
MPlus	.	.	.	62	38
LatentGold	.	.	.	62	38
MLWin	.	8	.	54	38
ARC/gis	.	.	.	54	46
BUGS (OpenBUGS WinBUGS etc)	.	.	8	54	38

Expertise: Which of the following datasets to you use, and how often?

	Percentage of respondents			
	Use regularly	Used once or occasionally	Do not use	Not given
Growing Up in Scotland (GUS)	.	8	62	31
Scottish School Leavers Survey	.	23	54	23
Scottish Crime Survey	.	8	54	38
Scottish Social Attitudes Survey	.	38	46	15
Scottish Health Survey	8	15	54	23
Scottish Household Survey	15	31	38	15
Scottish components of national datasets (eg BHPS)	8	15	46	31
Other Scottish datasets	31	8	31	31
Other UK datasets	23	8	31	38
Other datasets	.	8	31	62

Training requirements: Descriptive quantitative analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Frequencies, cross-tabulation, means etc	2	50	.	.	50
Comparing frequencies or means	2	50	.	.	50
Graphical output (eg bar-charts, histograms, pie-charts etc)	2	50	.	.	50
Transforming data distributions (eg log, quadratic)	4	.	25	25	50
Indices of inequality (eg GINI index)	5	20	.	40	40
Measures of association (eg correlation)	3	33	33	.	33

Training requirements: Regression analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)				
		Advanced	Intermediate	Beginner	Non user	Not given
Simple/multiple linear	4	.	25	25	.	50
Log-linear	6	17	.	33	.	50
Logistic/ordinal/multinomial	8	13	25	13	13	38
Other (eg poisson, negative binomial)	8	13	13	13	25	38

Training requirements: Longitudinal analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Event history analysis	9	11	11	33	44
Times series analysis	8	38	.	13	50
Trajectory modelling	8	13	.	38	50
Other longitudinal analysis	10	10	10	40	40

Training requirements: Grouping analysis

	Number requiring training	Percentage of respondents at each level (of those requiring training)				
		Advanced	Intermediate	Beginner	Non user	Not given
Principal components/factor analysis	7	14	29	14	14	29
Cluster/classification analysis	9	11	22	22	11	33
Latent class analysis	8	.	13	25	13	50
Multi-dimensional scaling	9	.	22	22	22	33

Training requirements: Other complex analysis methods

	Number requiring training	Percentage of respondents at each level (of those requiring training)			
		Intermediate	Beginner	Non user	Not given
Probability, set theory, matrix algebra	6	17	17	17	50
Multi-level modelling	8	25	.	25	50
Structural equation modelling	10	20	20	30	30
Spatial analysis/modelling	9	11	22	33	33
Geographically weighted regression	7	.	.	57	43
Simulation and risk analysis	7	.	14	43	43
Missing value analysis/imputation	8	13	25	25	38
Content analysis (eg NVivo)	7	.	29	43	29

Training requirements: Software packages

	Number requiring training	Percentage of respondents at each level (of those requiring training)				
		Advanced	Intermediate	Beginner	Non user	Not given
SPSS	4	25	50	.	.	25
Stata	4	.	25	50	25	.
SAS	2	.	100	.	.	.
R/S/SPlus	2	.	.	100	.	.
Amos	1	.	100	.	.	.
Lisrel	1	.	.	100	.	.
MPlus	1	.	.	.	100	.
ARC/gis	1	.	.	.	100	.
BUGS (OpenBUGS WinBUGS etc)	1	.	.	100	.	.

Training requirements: List of top three training priorities (all responses in alphabetical order)

Priority
ADVANCED REGRESSION TECHNIQUES
BAYSEIN METHODS
CAUSAL ANALYSIS IN STATA
DEALING WITH NON-PARAMETRIC DATA
DISCRETE/MONTECARLO SIMULATION
E.G. LOGISTIC REGRESSIONS
GOOD BRIEF REFRESHER OVERVIEWS OF STD TECHNIQUES
HANDS ON TRAINING FOR SPECIFIC TESTS
INFERENTIAL STATISTICS
INTERMEDIATE LEVEL STATISTICS
KNOWLEDGE OF LATEST STATISTICAL PACKAGES
LATENT CLASS ANALYSIS
LONGITUDINAL/PANEL DATA
NVIVO
PATH MODELS
RESEARCH DESIGN METHODS
SPSS
STATA
STRUCTURAL EQUATION MODELLING
STRUCTURED EQUATION MODELLING
TIME SERIES/PANEL DATA ANALYSIS (I.E. FIXED- AND RANDOM-EFFECTS)
UPDATING SKILLS RE REGRESSION ANALYSIS
USE OF STATA FOR ECONOMETRIC MODELLING

Training requirements: How likely to participate in different types of training

	Very likely	Quite likely	Not likely	Total replies
Taught courses with hands-on training	8	5	.	13
Presentations by experts, but no hands-on training	3	4	6	13
On-line training	5	7	1	13
Training by video link	1	3	9	13
Step by step examples on the website	6	6	1	13

Training requirements: How likely would you be to attend face-to-face training events in ...?

	Very likely	Quite likely	Not likely	Total replies
Aberdeen	1	3	7	11
Dundee	2	4	5	11
Edinburgh	13	.	.	13
Glasgow	6	7	.	13
St Andrews	2	7	2	11
Stirling	5	4	1	10
Elsewhere in Scotland	1	3	2	6

Training requirements: Preferred duration for face to face training

	N	%
Half day	3	23
1 day	6	46
2 days	3	23
3 days	1	8
Total responding	13	100

Training requirements: Are there any datasets on which you would like specific training?

	N	%
No	6	67
Yes	3	33
Total responding	9	100

Training requirements: Other methods where respondents want training
Note only a small number of respondents answered this question

Method	Level of expertise
Discrete Event Simulation	.
Fixed-effect	Intermediate
Monte Carlo Simulation	.
Probit	Intermediate
Random-effect	Intermediate
SPSS Answer Tree	Intermediate
STATED PREFERENCE (CONJOINT ANALYSIS)	Intermediate
Tobit	Intermediate

What in your view should be the main priorities for AQMeN?

	Average ranking
Provide support/advice on using quantitative methods	1.4
Provide support/advice on using software packages	3.2
Provide a forum for like-minded people to have dialogue about quantitative methods	4.2
Enable people to make contact with potential collaborators	5.7
Develop modules for teaching quantitative methods at postgraduate level	6.7
Run training or CPD courses on intermediate/advanced level statistics	4.5
Run training or CPD courses on basic level statistics	6.7
Run training or CPD courses on using software packages	6.0
Provide information on other training/CPD opportunities	7.0
Provide information on relevant seminars and/or conferences	6.8

Respondents ranked priorities 1-10 (1 = top priority, 10 = bottom priority)

Which of the following things would you use the AQMeN website to do? Discover and Inform

	Average ranking
Search for information about quantitative methods	1.8
Find resources for teaching quantitative methods	4.5
Use online training resources for statistical software packages	2.8
Discover related organisations and projects in the UK	5.5
Identify upcoming training or other network events via a calendar	4.3
Find contact details of network members	5.2
Find out about activities of network members	5.3
Discover who in the network has expertise on a given subject	4.3

Respondents asked to provide top 5 rankings (1=high, 5=low), unranked items given a low rank of 6

Which of the following things would you use the AQMeN website to do? Participate and Network

	Average ranking
Link to my staff home page & provide a link to AQMeN on my home page	4.5
Write descriptions about my activities & expertise for the website	6.0
Link to my social network sites (Facebook, LinkedIn, Twitter, Wordpress…)	6.0
Write content about topics of interest to myself and the network	3.8
Add links to websites of interest to the network	3.4
Upload teaching materials or datasets directly for use by network	4.7
Start a discussion about a problem or topic on an online forum	3.0
Respond to a thread on an online discussion forum by a member	4.3

Respondents asked to provide top 5 rankings (1=high, 5=low), unranked items given a low rank of 6

Would you be prepared to contribute to AQMeN in any of the following ways?

	Yes	No	Total replies
Organising or hosting a seminar	8	4	12
Presenting a paper at a seminar	7	5	12
Offering support to other network members on methods or software issues (where appropriate)	9	2	11
Be involved in the development of training or CPD activities	8	3	11
Be involved in developing teaching modules on advanced methods	6	5	11