What determines students' choice of What determines students' choice of elective modules? Mary Hedges, Gail Pacheco & Don Webber DEE 2013, Exeter University

### Overview

- Motivation
  - ⊘ Research focus
- ⊘ Background
  - O Student motivations
  - Ø Modules, majors, programmes, & universities
- O Data
- ⊘ Results
- O Concluding remarks



#### Motivation

- Prior research has focussed on determining the merits and costs of the modularisation of university programmes
  - Curricula issues e.g. fragmentation of degrees, increasing staff workloads
  - Enhanced student learning opportunities e.g. flexibility in paper selection
- However, little research has attempted to understand demand side student module choice selection

✓ i.e. Why do students choose specific modules?

### **Research Focus**

- Better understanding of the motivations driving student module choices allows universities to provide more direct information and guidance to students during their decision making process
  - Increased levels of engagement, higher success rates
- In this research we investigated the motivational factors that contribute to student module choices

# **Student Motivations**

Three main factors potentially contribute to module choice:

- *○* Intrinsic motivations
  - ✓ Students choose modules they expect to find interesting or challenging
  - ⊘ If students are intrinsically motivated, they will be "deep" or "meaningorientated" learners (Entwistle, 1981; Elton, 1988; Howorth, 2001)

#### Extrinsic motivations

- Students may be motivated by external rewards, such as money, grades, or praise. These rewards provide pleasure while the task itself may not
- Students motivated by extrinsic factors more likely to resort to "surface" or "rote" learning (Watkins, 1983; Biggs, 1988; 1989)

# Student Motivations (Cont'd)

#### Module characteristics

- Students may choose a module for practical reasons
- i.e. perceived difficulty, lecturer reputation, convenience of class time
- The three categories of motivation are not necessarily mutually exclusive
  - O Koceic, et al. (2010) found that 10%+ of their sample simultaneously agreed that they choose the elective they like the most, and the one they believed would be easiest to pass

# **Nested Choices**

A complete investigation of module choice would consider prior concerns

i.e. the choice of university, and then the programme at that university

- Highly likely a student's underlying characteristics influence their choice of university, programme, major, and electives
- In this study, all student's have selected the same university and programme of study – a Bachelor of Business
- However, there is also likely systematic differences in motivating forces between majors

### Nested Choices (Cont'd)

- Prior evidence of motivations behind elective module choices by students has focussed at the programme rather than the module level
  - Hennessy, et al. (2010), Howorth (2001), and Koceic, et al. (2010) identify both intrinsic and extrinsic motivations for students choosing programme and non-programme electives by specialist and non-specialist students
  - O These studies find that a deep learner may adopt a surface learning strategy when the system encourages them to choose a module they perceive to be relatively easy but not necessarily of interest to them

#### Data



- O Student-level perspective adopted
- O Primary individual-level data used
  - Orawn from a questionnaire voluntarily completed by students undertaking third year papers in the Business School of Auckland University of Technology, 2<sup>nd</sup> semester 2011
  - 1,824 valid responses, of these 737 were from elective papers and useable
- Questionnaire 3 parts
  - O General demographic information
  - Questions relating to the students' major(s) & their motivation for choosing that major
  - Questions relating to why the student had selected a particular module/paper

#### **Motivation Scale**

- Questions relating to student motivations were drawn from extant literature & AUT staff discussions
- 15 statements, student responded on a 5-point Likert scale designed to elicit the strength with which they agreed (1) or disagreed (5)
  - Only 12 were used in the analysis (other and maths/writing ones dropped)
- ✓ Examples of statements included:
  - I thought this paper would be more interesting than the alternatives"
  - ✓ "I thought I would be able to gain a high mark for this paper"

## **Results – Factor Analysis**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.818
	Approx. Chi-Square	2055.305
Bartlett's Test of Sphericity	Df	66
	Sig.	0.000

- Indicates that our 12 motivation variables can be grouped into 3 underlying factors.
- These factors explain a high level of the variance AND all have high individual measures of sampling adequacy (MSA > 0.8)

#### **Pattern Matrix**

	<u>Component</u>		
	1	2	3
	Module characteristics	Intrinsic motivations	Achievement / Extrinsic motivations
Thought it would be more interesting than alternatives		0.680	0.473
Thought it would be easier than alternatives			0.784
Relevant to my career aspirations		0.781	
Have friends taking this paper	0.645		
Thought I would gain a high mark	0.340		0.557
Only paper with space	0.728		
Lecturer's reputation attracted me to this paper	0.770		
Time and day of this paper was convenient	0.600		
Thought this paper would be impressive on CV	0.485	0.408	
Wanted to learn more about this subject		0.840	
Assessment structure of paper was appealing	0.459		
Thought this paper would be challenging	0.423	0.536	-0.357

Notes: Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.

# Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
Componen		% of	Cumulative		% of	Cumulative	
+	Total	Variance	%	Total	Variance	%	
1	3.449	28.742	28.742	3.449	28.742	28.742	3.078
2	2.193	18.279	47.021	2.193	18.279	47.021	2.539
3	1.038	8.654	55.675	1.038	8.654	55.675	1.697
4	.878	7.315	62.990				
5	.687	5.725	68.715				
6	.652	5.437	74.153				
7	.587	4.888	79.040				
8	.583	4.860	83.900	Ve	licer's te	st sunne	sts only the
9	.552	4.601	88.501				
10	.507	4.229	92.730	tirs	st 2 facto	ors are sig	inificant –
11	.456	3.803	96.533	00	nsistant	for all ros	ulte
12	.416	3.467	100.000				

Notes: Extraction Method: Principal Component Analysis.

# **Gender Differences?**



- Literature suggests that females are more intrinsically motivated (Kuh, 2010) but...
- ⊘ Intrinsic motivation ranked first for both
  - 27% for males and 30% for females.
- Module characteristics split into peer/network effects versus convenience aspects
  - O Peer/network effects only significant one
  - Slightly stronger for males
  - Could be picking up institutional effect (Hedges, 2010)

# Age Differences?

- 25 taken as age split between young & mature
- Intrinsic motivations marginally higher for mature students (20% versus 17%)
- Split by gender and age shoed mature, males more extrinsically motivated than any other group.
- Sample not large enough to split by part-time versus full-time and age.

# Summary Results Across Majors

Major	Module Characteristics	Intrinsic Motivations	Achievement / extrinsic Motivations
Accounting	33%	17%	8.5%
(n = 160)	(1)	(2)	(3)
Economics	30%	18%	11%
(n = 77)	(1)	(2)	(3)
International Business	30%	17%	10%
(n = 70)	(1)	(2)	(3)
Marketing, Advertising, Retail and Sales	28%	19%	9%
(n = 235)	(1)	(2)	(3)
Management	20%	28%*	9%
(n = 261)	(2)	(1)	(3)
Finance	20%	27%	11%
(n = 114)	(2)	(1)	(3)
Business Information Systems	17%		30%
(n = 35)	(2)		(1)
Law	12%	30%*	18%
(n = 51)	(3)	(1)	(2)

# **Concluding Remarks**

Overall, the results highlight the importance of intrinsic motivations in choosing elective modules

- General trend was that intrinsic motivations dominated, followed by module characteristics
- Minimal differences in motivations driving males & female students or young versus mature students.
- However, older males (25 years +) more likely to be dominated by module characteristics
- Students majoring in the Management & Finance disciplines typically more intrinsically motivated relative to peers in other disciplines