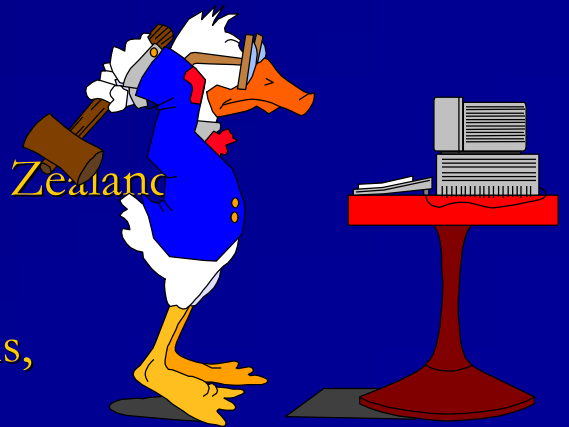


A Model of User Acceptance of E-learning Technologies: a Case Study of a Polytechnic in New Zealand

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Overview

- Background
- Models of User Adoption
- Prior Research
- Findings
- Conclusions
- Upcoming Study



Background to the study

- Technology innovation and User Acceptance
- Lack of LMS Uptake
- Lack of prior research in NZ
- Lack of theoretical framework

Work to date

- Research project report – November 2004
- Research article – May 2004, presented at the ISTA Conference, Massey University
- Research article – September 2005, presented at the Tertiary IT Managers Conference
- Wider study – Commenced in July 2005

What is E-learning?

- **E-learning** is defined as education delivered via internets or intranets, which are synchronous, and enables anytime, anyplace learning (Ministry of Education, 2001).
- **E-learning** includes any learning which makes use of computer technologies and digital tools, particularly those associated with internet (online) or CDROM (Ministry of Education, 2004).

Why e-learning?

- Institutions are adopting e-learning
 - To give learners greater choice?
 - Capture new markets?
 - Low cost delivery?
 - Because it's there?
 - Modern image?
- Governments are promoting e-learning
 - eg NZ DoE development funds etc
 - UK Online University

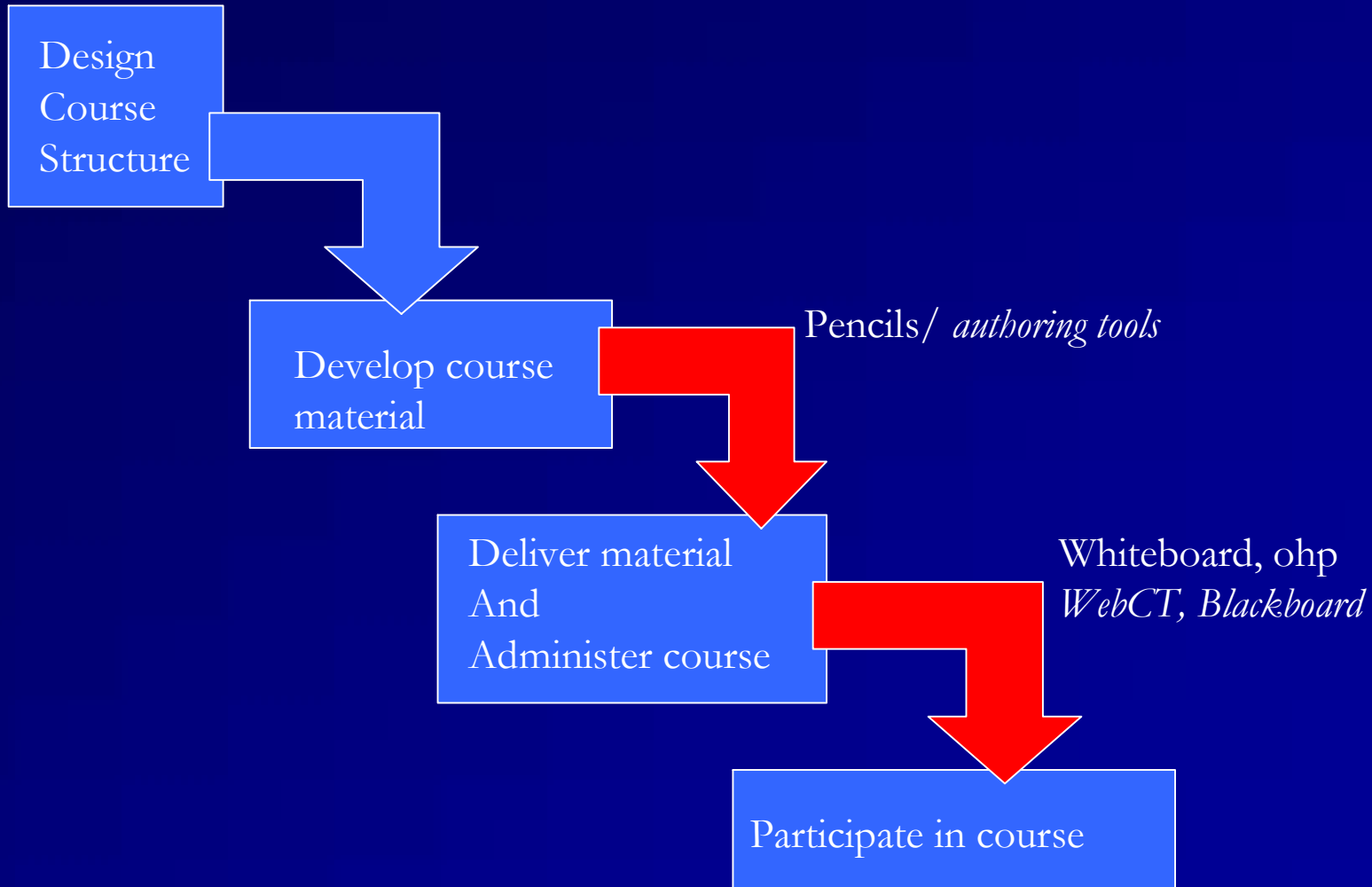
Uptake

- 6% faculty staff in USA (US DoE 2002)
- 2.2% Australian Graduates (NCVER 2000)
- 8% NZ Poly Face to Face courses had online support (Nichols 2003)

Aims of research

- Identify the barriers for content development & delivery
- Identify which barriers the staff view as most critical
- Help to improve future uptake

E-learning process



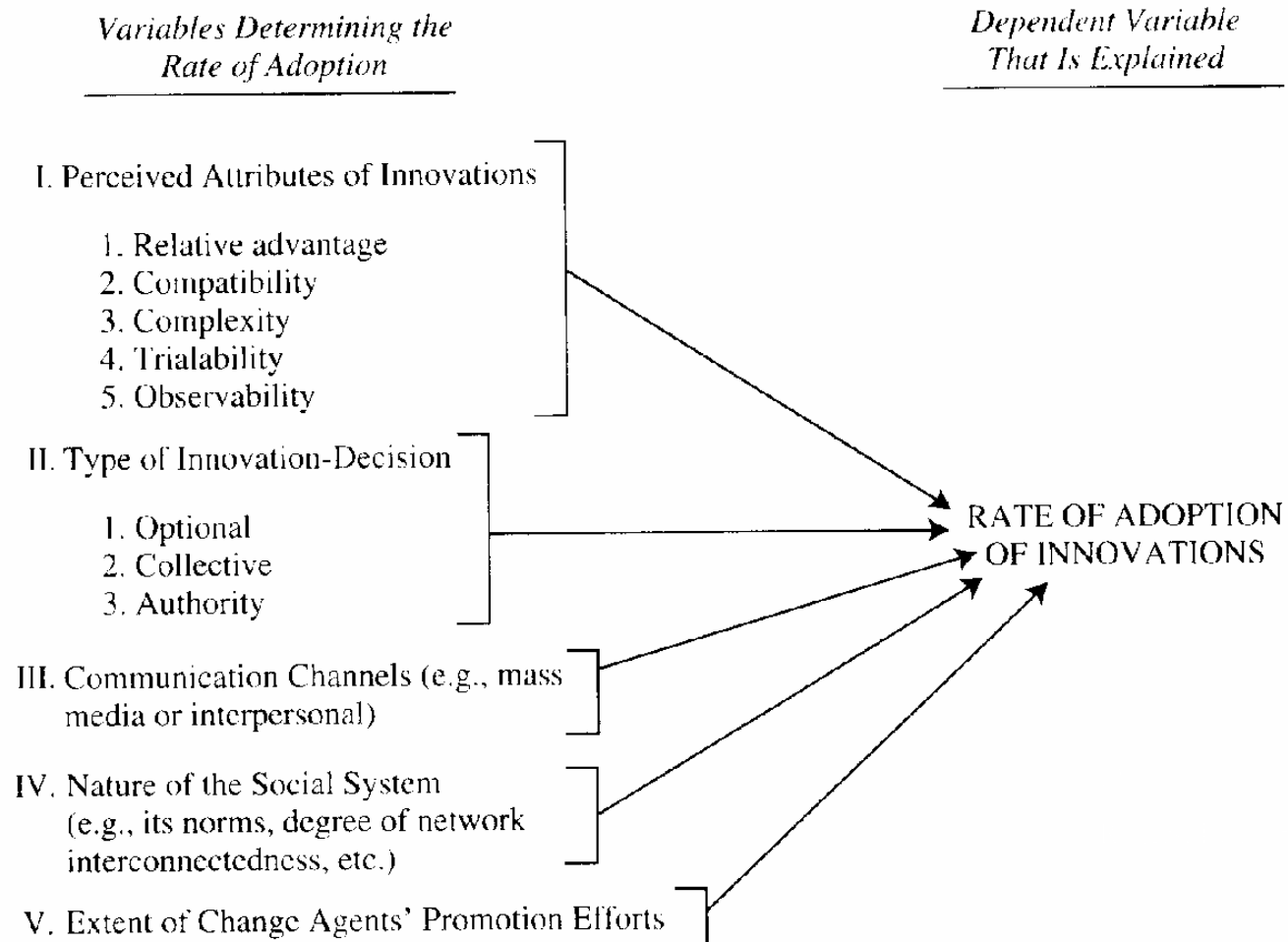
Models of Technology Adoption

Diffusion of Innovations (Rogers, 1983)

TAM (Davis, 1993)

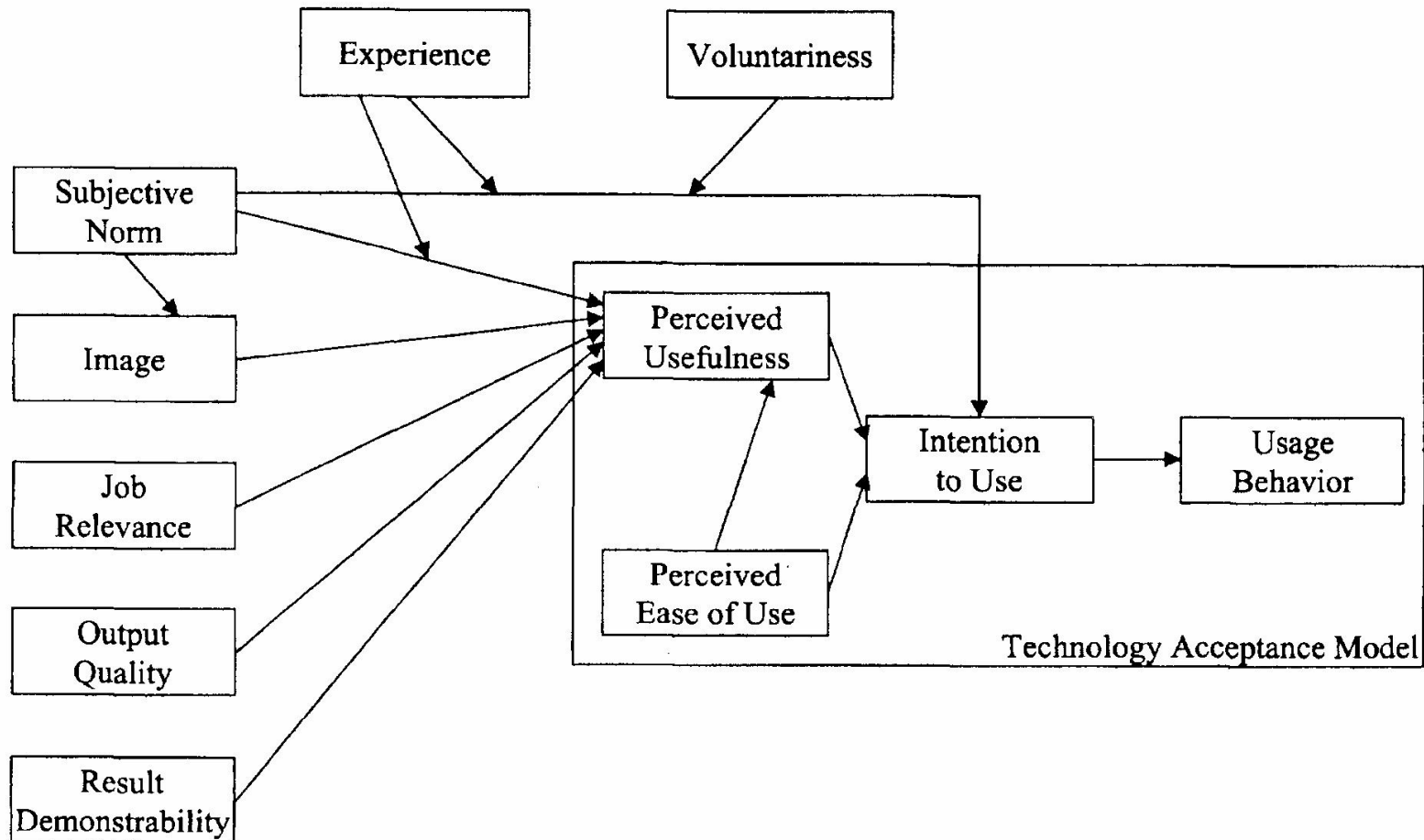
TAM-2 (Vankatesh & Davis 2000)

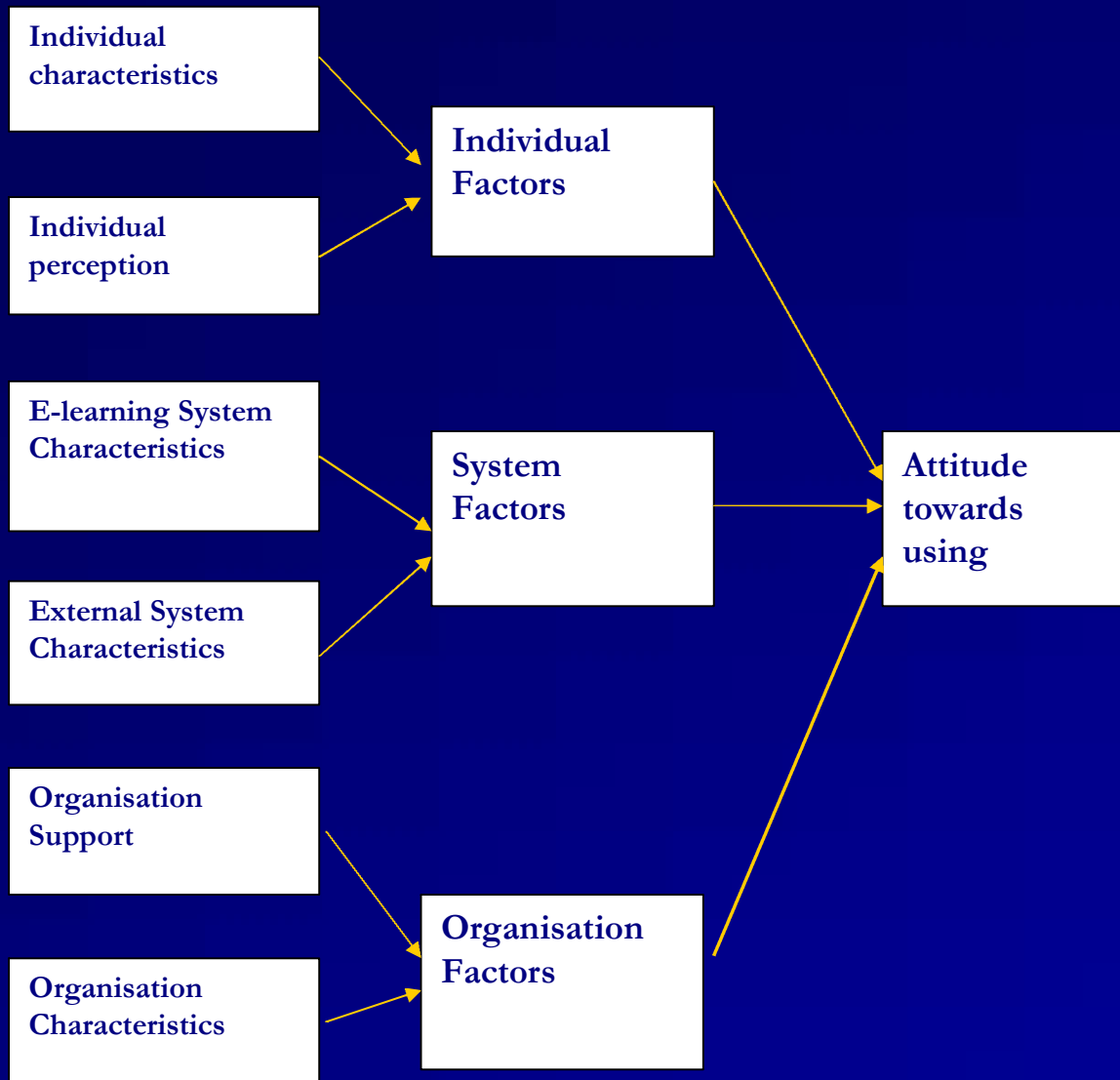
Figure 6-1. Variables Determining the Rate of Adoption of Innovations



d.

Figure 1 Proposed TAM2—Extension of the Technology Acceptance Model





Theoretical Framework for User Acceptance of E-Learning Technology

Prior Research – E-learning

■ Individual Factors

– Individual Characteristics

– Understand the pedagogy

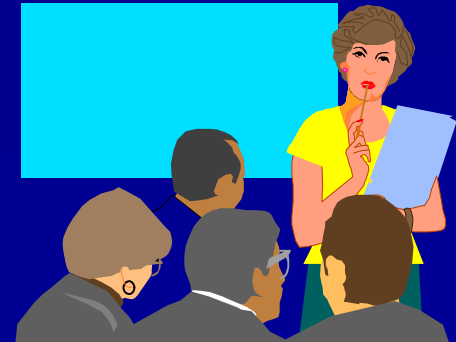
- Inglis, Ling, Loosten 99; Gulati 2004; Graves 2001..

– ICT skills, basic and for LMS

- Neil 2004; Varsidas 2004; Levine & Sun 2003..

– Teamwork & Project skills

- Neil 2004



Prior Research – E-learning

■ Individual Factors

– Individual Perceptions

– Influence of colleagues

– System relationship to quality of F2F teaching

– School culture towards e-learning

■ O'Quinn & Corry 2004

– Perceived impact on relationships with students

■ Oblinger, Barone & Hawkins 2001

Prior Research – E-learning

■ System Factors

– E-learning System Characteristics

– Functionality

- Berege 1997; Vrasidas 2004

– Usefulness

- from TAM

– Ease of use

- from TAM

Prior Research – E-learning

■ System Factors

– External System Characteristics

- Capacity of ICT infrastructure
- Reliability of ICT infrastructure
- Online library resources
 - Hitt & Hartman 2002
- Online administrative systems
 - Britain et al. 2002; Graves 2001
- Helpdesk facilities
 - Hitt & Hartman 2002

Prior Research – E-learning

■ Organisation Factors

– Organisation Support

– Staff training

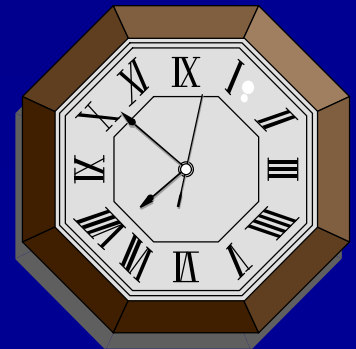
- Graves 2001; Clarke 1999;

– Support staff – designers, programmer etc.

- McKnight 2004

– Time, incentives, rewards

- Levine & Sun 2003; Moskal & Dziuban 2001; Care 2002....



Prior Research – E-learning

■ Organisation Factors

– Organisation Characteristics

– Faculty culture & support

- Dillon & Walsh 1992;

– Institutional leadership

- Oblinger, Barone & Hawkins 2001

– Institutional strategy

- Hitt & Hartman 2002

Research Methodology

- Structured Face to face interviews with staff (tutors)
- Sample frame
 - staff having attended e-learning training
- Stratified by adopter type:
 - Non / partial / full
- Sample size - 10
- Issues based interview schedule



Findings - Barriers

■ Individual

- Lack of knowledge (60%)
- Colleagues may influence decision (70%)
- Impact of quality (30%)
- Not fit with practice (30%)

■ System

- Lack of functionality (60%)
- Lack of ICT reliability & performance (100%)

Findings - Barriers

■ Organisation

- Lack of time (80%)
- Lack of incentives (60%)
- Lack of training (80%)
- Lack of helpdesk support (90%)

- Lack of Strategy (90%)
- Lack of leadership (50%)

Ranking of Issues

- Participants asked to identify & rank barriers

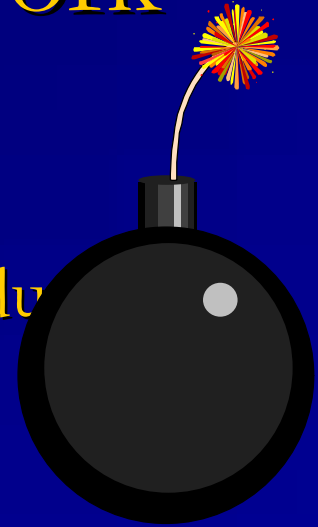
Barrier	#1	#2	#3
Lack of direction & strategy	4	1	3
Lack of time incentives	2	2	3
Lack of training & support	1	1	3
E-learning not relevant	1	1	
Lack of IT skills	1	1	
Lack of incentives	1		

Conclusions

- Staff perceive benefits but lack skills
- *Blackboard* has limitations, esp. for interaction.
- ICT infrastructure would influence decision and provision of other services would increase staff uptake
- Lack of direction, institutional strategy & time incentives seen as major barrier

Recommendations/ Future Work

- Institutions should address all barriers at individual system & organisational levels
- Organisational issues are a priority - leadership & strategy across units is required
- Larger scale study desirable, to allow more comprehensive analysis of issues



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Upcoming Study

- Background to the study
- Research Objectives
- Intended Outcomes
- Who would benefit from this study and how?
- Project details:

<http://www.boppoly.ac.nz/LMSresearch/index.htm>