A Model for Considering the Financial Sustainability of Learning and Teaching Programs Concepts and Challenges

AAIR 2011

David De Bellis

Flinders UNIVERSITY

inspiring achievement

Institutionalising a University Teaching and Learning Activity Planning Model

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inspiring achievement

Context - International Drivers

(OECD, 2008)

expansion

globalisation

diversification

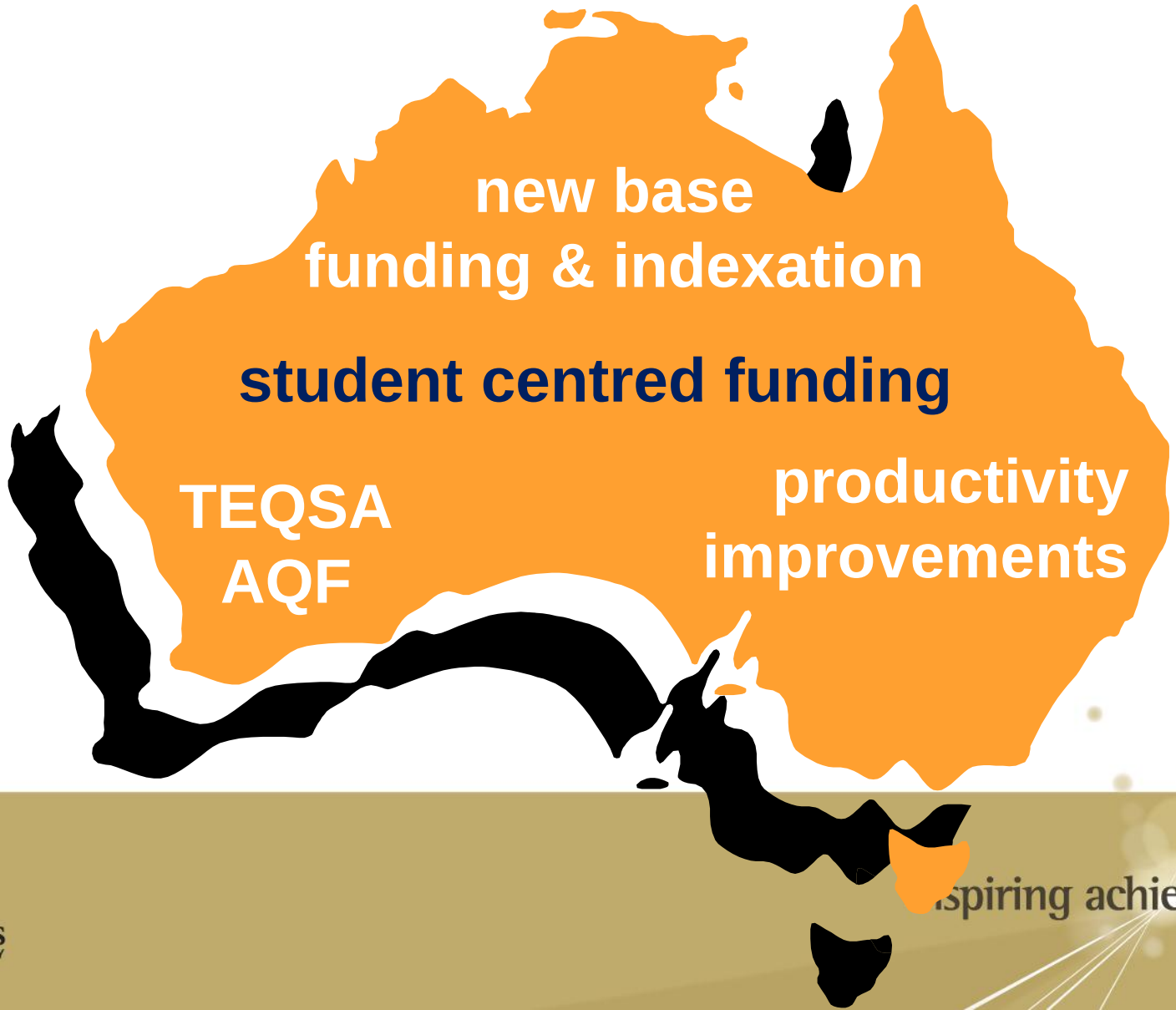
new governance structures

differential funding

focus on accountability & performance

Context - National Drivers

Transforming Aust HES (2009)



Context - Institutional Drivers

Flinders

ba - integrated load modelling

Key Strategy 9:
IMPROVING OUR FINANCIAL CAPACITY

By ensuring that our available resources are increased and used in the most effective and efficient ways

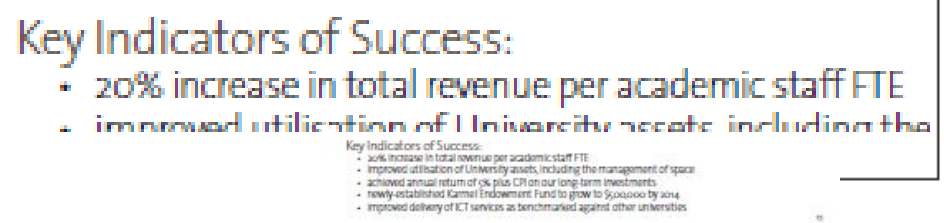
Achieving our vision and delivering on this Strategic Plan will require financial investment. This investment can come, in part, by increasing revenue from a range of sources, in particular through stronger partnerships with government, industry and other key stakeholders. This must be bolstered by ensuring existing resources are used efficiently. Flinders University is committed to removing unnecessary duplication and achieving a high level of efficiency and effectiveness in teaching delivery, administration and in the use of Information and Communications Technology (ICT).

Flinders University will:

- ensure that our policies and procedures are relevant and regularly reviewed, our delegations are appropriate and current, our decision-making processes are consistent with modern principles of governance and our procedures streamlined;
- maintain an environment where innovation, productivity and diligence are enabled and nurtured;
- improve capital and asset (including space) utilisation planning so that University's facilities meet the requirements of strategic developments;
- maintain a flexible and cost effective ICT framework which underpins and supports teaching and research and ongoing improvements in administrative practice, and which facilitates all key functions and requirements of the University; and
- increase the University's financial returns by increasing external revenue and adopting a more balanced and less conservative investment strategy.

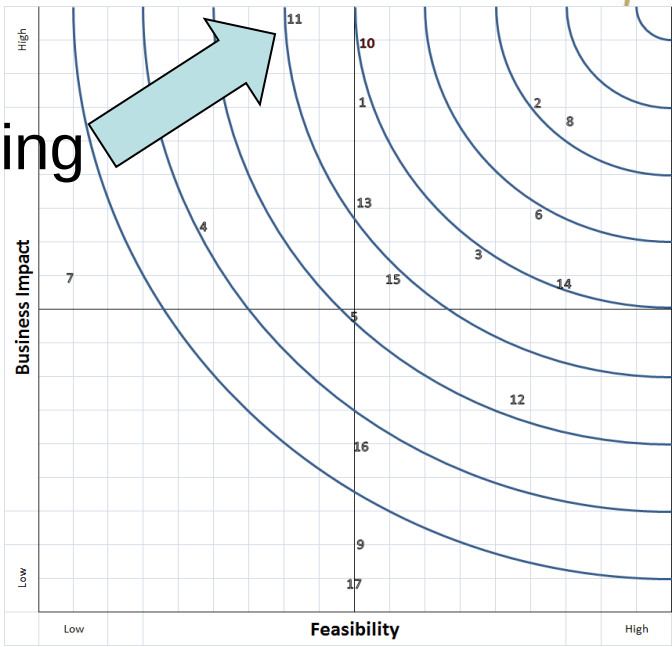
Key Indicators of Success:

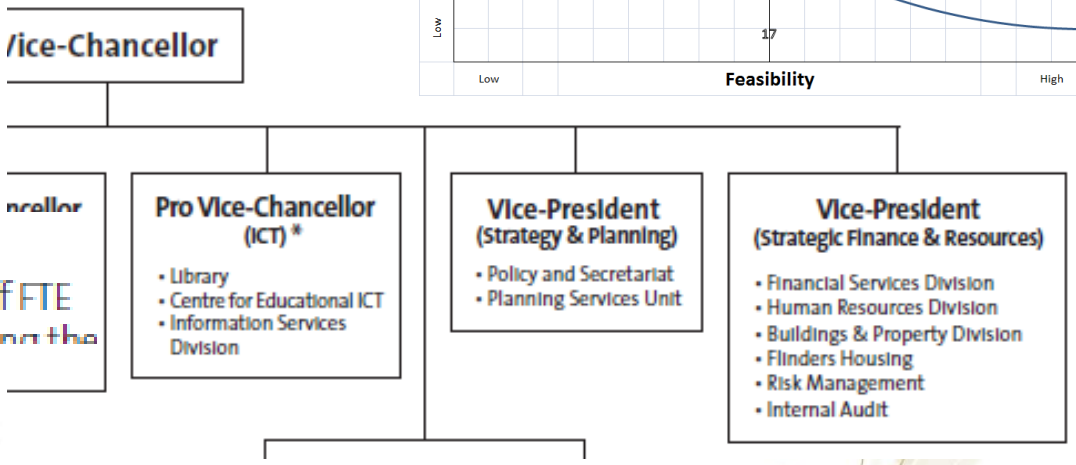
- 20% increase in total revenue per academic staff FTE
- improved utilisation of University assets, including the



Key Indicators of Success:

- 20% increase in total revenue per academic staff FTE
- improved utilisation of University assets, including the management of space
- achieved annual return of 5% plus CPI on our long-term investments
- newly-established Karmel Endowment Fund to grow to $5,000,000 by 2014
- improved delivery of ICT services as benchmarked against other universities





Operating Environment

- Massification of Higher Ed
- Managerialism
- Increasing (global) competitiveness
- Heightened accountability and scrutiny of performance
- Drive for efficiency and productivity improvements (costs)
- Sustainability

Problem for T&L Planners

- Lack “mature” and “easy” analytical tools
- Trouble calculating, understanding, & managing ed value, revenue & costs
- Cant easily report retrospective info or perform prospective scenario planning
- No ability to optimise resource allocation
- Reluctant to consider alternative delivery models

Problem for T&L Planners

- Cant model at all levels
  Unit of Study
  Discipline/Subject /Department ...
  Institution
- Approaches lack consistency
- Concerned about degradation in standards, learning quality
- Sustainability/viability of programs at risk

Ideal Solution

- Secure and consistent web based business analytics environment
- Retrospective reporting and prospective planning functionality at relevant levels
- Optimise resource allocation and consider and account for alternative delivery models
- Monitor and assure quality
- Maximise productivity and sustainability

But...
How to successfully operationalise such a solution?

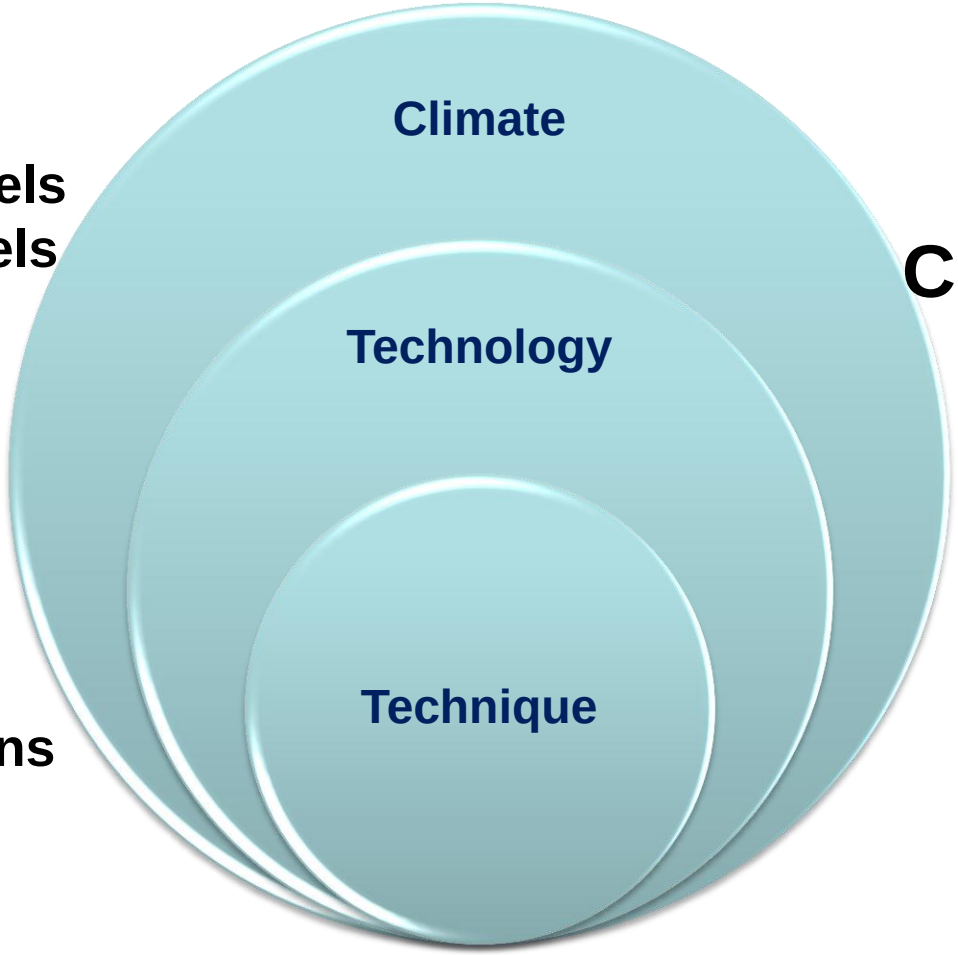
Ideal Solution Elements

Technique

- output rule
- ed value models
- revenue models
- abc models
- prospective
- stochastic

Technology

- tools & infrastructure
- dw/ba solutions
- mis
- training
- capacity



Climate

- context
- culture
- management
- change
- pedagogy
- t&l quality

Culture

- The (strange) academy (Mayhew, 1971)
- Use of power (Hardy, 1991)
- Change Leadership and Management (Julius, Baldridge,and Pfeffer, 1999; McCaffery, 2004)
- Changing Role for Deans (de Boer & Goedegebuure, 2009)

Change Leadership

- Julius, D., Baldridge, J. & Pfeffer, J. (1999). A Memo from Machiavelli. The Journal of Higher Education, 70(2), 113-133.
- Integrity, teamwork, focus, conflict resolution, institutional history, strategic, committees, understand systems, persistence, reflection.
- Identification problem, vision, IMPLEMENT!

Pedagogy Redesign NCAT

- The National Centre for Academic Transformation (NCAT)
- Virtual Organisation (US)
- Headed by Dr Carol Twigg
- Redesign learning environments
- Use of technology
- Improved learning outcomes
- Reduced cost

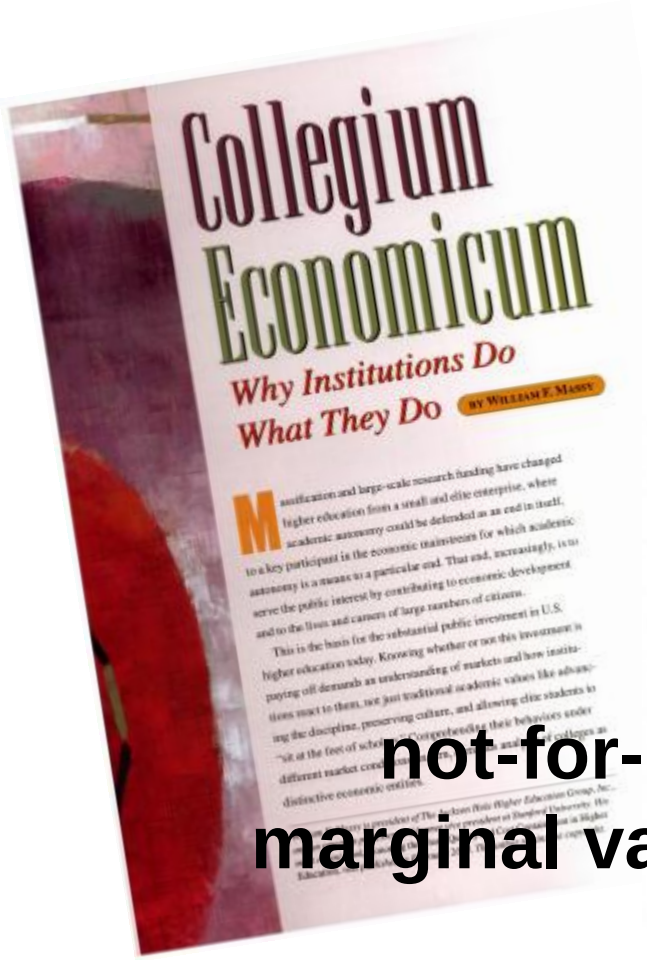
Pedagogy Redesign NCAT Models

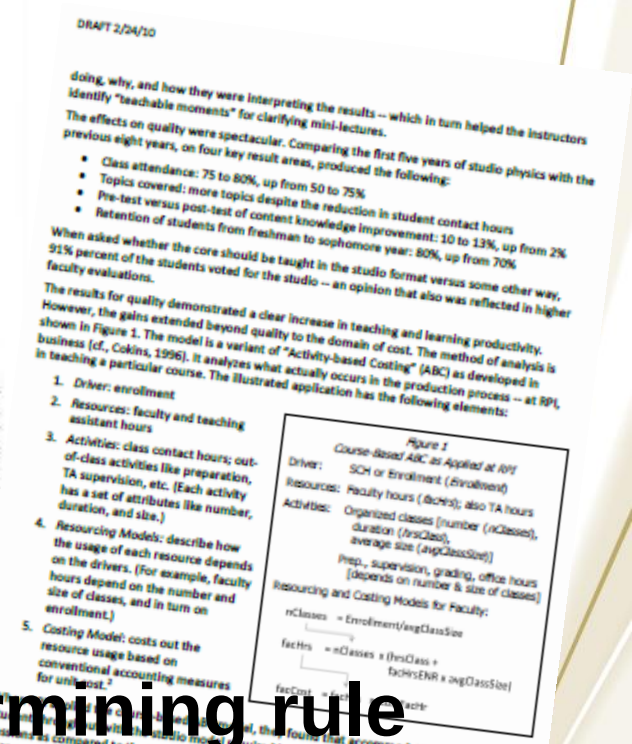
- Supplemental - lectures
- Replacement - class contact reduced
- Emporium - class contact eliminated
- Online - web based wholly external
- Buffet - learning is individualised

Pedagogy Redesign NCAT Findings

- PoC 30 projects/institutions 1999-2004
- Increased learning (25/30↑, 5≡)
- Increased completion rates (19/24)
- All reduced costs (20% - 70%, avg 37%)
- Improved student attitudes to subject matter
- Increased staff & student satisfaction

Massy FS Modelling Framework





not-for-profit output determining rule

marginal value (mv) + marginal revenue (mr)

= marginal cost (mc)

Not-For-Profit Output Determining Rule

- mv + mr = mc
- In theory academic programs will maximise the overall value of instruction by teaching at the (output) point where mv plus mr equals mc subject to the constraint that total revenue (tr) equals total cost (tc)
- Close down point if and only if tr = tc = 0

Ed Value Models

- Quantification in dollar terms most problematic of all components
- Could be derived thru some conversion based on quality and relevance characteristics. eg - student opinion, employability, progress, retention, policy imperatives, demand
- Not necessarily an essential ingredient

Revenue Models

- Measuring and reporting actual revenue generated by teaching and learning activity has its challenges

  eg - different funding groups (CS v FP)
  - discounting, internal scholarships

Revenue Models

- Projection load/revenue models are stochastic (uncertain)
- Institutional research needed to improve and measure accuracy
- Commencing revenue prediction models based on application characteristics, continuing on existing cohort characteristics

Cost Models

- ABC Models
- Students (products), undertake learning activities like classes, preparation and other out-of-class actions
- Activities consume teaching staff and other resources which have a cost.
- Resources are costed and related to the students by subject enrolments (the driver).

Cost Models

- Only costing methodology that offers significant management and planning advantages to institutions (Ismail, 2010).

Technology

- Platform is required to deliver tools
- DW/BA Solutions
- Strategy and Governance
- Infrastructure
- Development
- Training
- Resources & Capacity

Rough Program of Work

- Refine costing and revenue models (2011)
- Apply to proof of concept discipline area (early 2012)
- Expand to other discipline areas (early 2012)
- Port to BA environment (mid-late 2012)
- Integrate as formal BA ILS (mid 2013)

Acknowledgements

- Bill Massy
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- Luke Rowett (Senior Information Analyst, Flinders)

How Do I Feel About Leading This Project?

- A bit like Gimli the Dwarf from Lord of the Rings
- http://www.youtube.com/watch?v=bIiUlPrZf8k&feature=related

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