Assessment for Determining Value and Enhancing Efficiency and Effectiveness in Higher Education

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CDU – aims to 'solve complex problems of its region'
not just *'discover'*

Requirement

- ***add value***
- ***reliable, repeatable measures***
- ***assessed value/benefit not just publication performance***
- ***where improvement in practice that would add more benefit/impact could be measured***

AND

addressed the 'So What?' often asked by business, government and funding bodie

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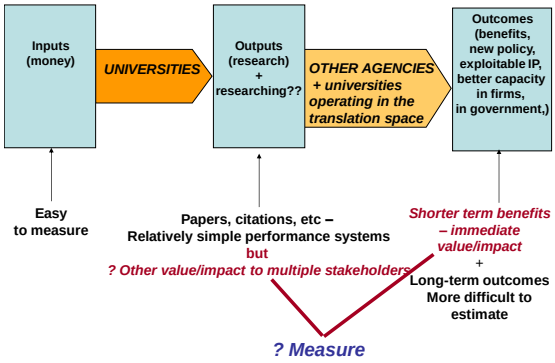
Perspectives



What is required to measure ?

Measure: *A measure is a numerical representation of an object in which all the attributes of the object are included in the representation in a manner compliant with measurement theory and all measures and manipulations are also compliant with measurement theory.*

Indicator: *An indicator is a roughly estimated representation of an object which may suffice for local needs but which is prone to errors.*

	Measurement system	Indicators
Advantages	Accurate if built properly Produces a complete view of the object Data can be disclosed Results can be benchmarked Can be the basis of derived measures Can be used with other business models Transparent and auditable Takes multiple views of value into account	Quick to build Easy to operate
Disadvantages	Takes care and time to set up Data requirement can be large Data quality requirements are stringent	Purpose specific Cannot be benchmarked with safety Takes a single "average" view of value Cannot be built up to value complex objects Possibility of duplication

Key methodological propositions

1. **Most decisions in which more than 1 factor are involved are decisions based on value (and values) with performance being relegated to an input.**
2. **In order to explain decisions to those who have to implement them or who are affected by them, they must be transparent.**
3. **In order that they have the best possible quality, the methodology that supports the decisions must be rigorous and repeatable.**
4. **While the decisions made may not suit everyone, those making the decisions must be aware of how their decisions will be seen by individual stakeholders.**

If decisions are based on value then value must be evaluated. This means using an axiological approach. Since entities are complex, axiology must be extended with MAVT. Finally, for transparency, rigour and reliability, measurement theory must be employed.

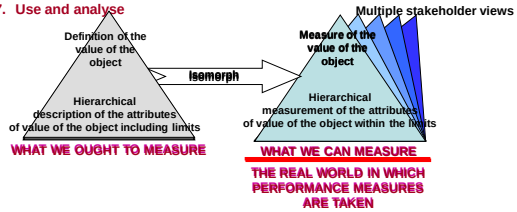
The CVH methodology combines these elements and was chosen for the task.

Theories supporting value measurement

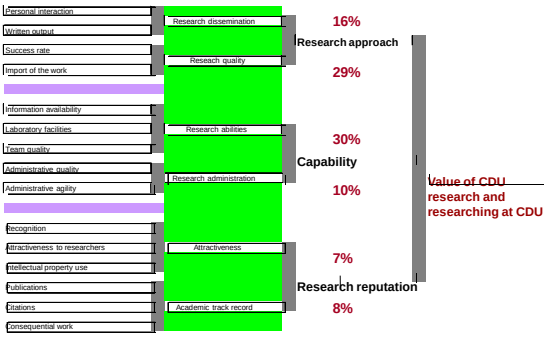
1. **Axiology (the theory of value) – sets the ground-rules on the definition of objects, the treatment of stakeholders and issues of truth.**
   - *The subject to be measured or valued is precisely defined*
   - *The definition is inclusive of all opinions and requirements from all stakeholders*
   - *All participants (stakeholders) have equal dignity or importance, at least ex ante*
   - *Every participant is accountable for the veracity of his/her position*
2. **MAVT (Multi-Attribute Value Theory) – extends axiology in a practical way to complex real world entities. Results in hierarchical value structures whose construction is driven by rigorous rules.**
3. **Measurement Theory (a branch of applied mathematics) – defines how value structures can be operationalised into value measurement systems.**

The CVH process

1. **Define the question VERY thoroughly to ensure the most can be done with the results and permit the "right" questions to be asked. Implied comparisons.**
2. **Identify the stakeholders**
3. **Interview stakeholders and build a value structure – the attributes of import**
4. **Operationalise (with proxies) and test, test, test**
5. **Re-interview stakeholders to customise a version of the structure for each**
6. **Collect performance data**
7. **Use and analyse**

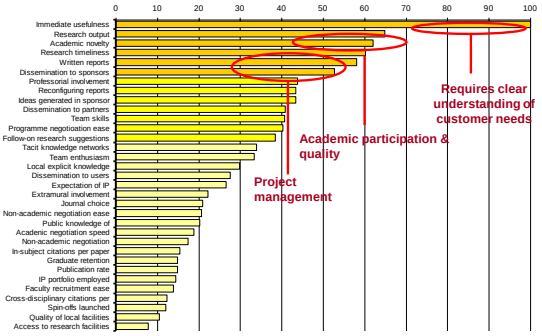


Numerical issues – *What is valued?* – more than just quality

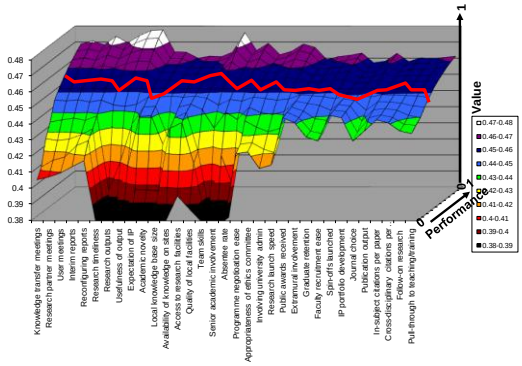


Selection of a research university is based on potential and past performance (40%)
Funding is based on past performance (15%)
Satisfaction is largely based on current performance (45%).

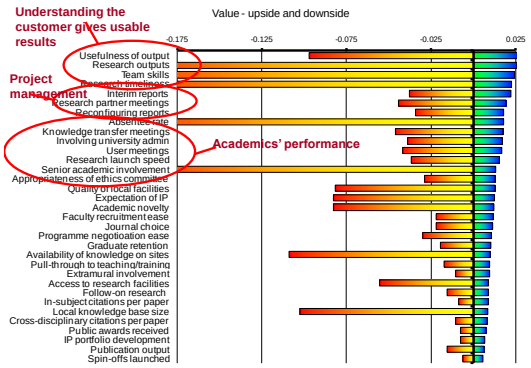
"Average" prioritised position



CDU - Current performance (1)



CDU - Current performance (2): *where effort will add value*



CDU? – *What will increase value effectively and efficiently*

Research timeliness	100
Research outputs	28
Team skills	26
Usefulness of output	26
Involving university admin	21
Interim reports	21
Absentee rate	19
Senior academic involvement	18
Research partner meetings	18
Research launch speed	18

Prioritised scale of effect on a 1-100 scale

What have we done?

- **Provide more courses and encouraged participation therein eg:**
  - **project management**
  - **report writing**
- **Encouraged**
  - **allocation of time for project management and interaction:**
  - **teaming with professorial staff as mentors even if not actively involved in 'doing' the research**
- **Reviewed the best approaches for promulgation of applied research**

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What have we done?

Postgraduate students generic skills programmes revised to include:

- **writing skills**
- **project management**
- **presentation skills**
- **intellectual property**
- **media skills, as well as ethics and discipline specific research methods**

2008 – Average score of 3.35 on a scale (low) to 4 (high)

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In complex situations, simple performance metrics cannot be trusted

They only estimate a small proportion of the value

What will increase value further?

- **CUSTOMER**
  - Understand the (heterogeneous) research sponsors, their pressures and requirements.
  - Be user-friendly towards all research sponsors publicising capabilities and successes.
  - Produce output attuned to the needs of the customer.
- **PERSONNEL**
  - Give key academics cause to stay rather than cause to go.
  - Strive for strength in depth in key areas and the retention of favoured people.
- **ACADEMIC**
  - Encourage and facilitate internal and external knowledge networking.
  - Maintain academic publications and focused liberal research.
- **ADMINISTRATION**
  - Reduce the administrative load and diversions on the best acade
  - Streamline and speed up administrative performance.
  - Consistency in all aspects of execution is needed, including administration.

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The Future – Australian context

The results provide a basis for

- **ongoing improvement**
- **universities to position themselves – the attributes of import that will be important to the differing stakeholders that interface with universities of different types can be determined**

  any funding compact with government encompassing research that recognises distinctive missions

- **agreements with other funding bodies where a wide range of outputs not just publications is important**

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The Future - Strategic possibilities provided by CVH measurement

Universities are able to

- contribute effectively to the debate on the assessment of universities
- position themselves – the attributes of import that will be important to the differing stakeholders that interface with universities of different types
- select academic areas of excellence that
  - are delivering benefits
  - will deliver benefits and enable determination of what important
  - generate economies of scope rather than scale
- cooperate with competitors
  - build business and reputation by agreeing on attributes each brings
  - recognise local goodwill and suggest new ways of marketing (and trading)

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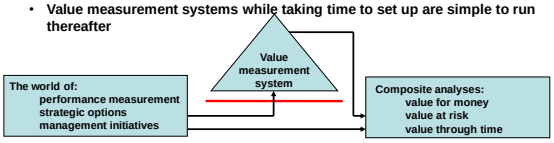
Conclusions

- Value measurement gives a rich appreciation of the real world of multiple stakeholders
- The university assessment highlighted the issues of importance to the stakeholders
- Clear, actionable strategic and tactical opportunities emerged from the analyses
- Value measurements are open and auditable and the results can be published safely
- Value measurement systems while taking time to set up are simple to run thereafter



Performance measurement taking account of multiple elements is the input to an operational value measurement system