2010 ERA: The ANU Experience

John Wellard - Research Office
The Importance of ERA to ANU

• Reputational Consequences

• Revenue? (ERA and TC results used as “interim performance factor” in SRE funding from 2011)

• Research Training? (ERA results might determine right to supervise/offer PhDs)

• Assessment (when done well) can assist with “Benefit of Research” agenda.
ERA 2010 – The Essentials

Reported data about 4 key subjects:

- People: as of 31 March 2009
- Research Outputs for 2003-2008
- Category 1-4 Income for 2006-2008
- Applied & Esteem Measures
ERA 2010 – Overview

• People: as of 31 March 2009 (55,000 Individuals/40,000 FTE)

• Research Outputs for 2003-2008 (432,000)
  • 1.5% Books
  • 10% Book Chapters
  • 62% Journal Articles
  • 22% Conference Papers
  • 4% Non-traditional outputs

• Category 1-4 Income for 2006-2008 ($7.5B)
  • 42 % Category 1
  • 25% Category 2
ERA 2010 – ANU Submission

• People: as of 31 March 2009 (2006 Individuals/1719 FTE)
  • 1844 Employed Staff (researchers and general staff)
  • 36 Casuals
  • 126 Affiliates

• Research Outputs for 2003-2008 (18,091)
  • 1.5% Books (1.5%)
  • 15% Book Chapters (10%)
  • 68% Journal Articles (62%)
  • 13% Conference Papers (22%)
  • 1.8% Non-traditional outputs (4%)

• Category 1-4 Income for 2006-2008 ($395M)
ERA 2010 – ANU

• Applied & Esteem Measures
  • Membership of Learned Academies
  • Prestigious Fellowships
  • Editorial Roles
  • Patents
  • Commercialisation income
ANU Process

- Interpret guidelines
  - Employed, casual staff, affiliates

- Check quality of existing data
  - Outputs

- Code data
  - Grants, patents, etc.
# Researcher Reporting Categories

<table>
<thead>
<tr>
<th>Status on census date</th>
<th>Eligible? By census date 31/03/2009</th>
<th>Affiliated?</th>
<th>Submit Researcher Data?</th>
<th>Submit Pubs?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed Staff Member: Research Only - no pubs</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Employed Staff Member: Teaching &amp; Research - no pubs</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
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<tr>
<td>Employed Staff Member: Other - no pubs</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
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<tr>
<td>Employed Staff Member: Research Only - with pubs</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes – All eligible pubs</td>
</tr>
<tr>
<td>Employed Staff Member: Teaching &amp; Research - with pubs</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes – All eligible pubs</td>
</tr>
<tr>
<td>Employed Staff Member: Other - with pubs</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes - All eligible pubs</td>
</tr>
<tr>
<td>Casual Staff Member – no ANU pubs</td>
<td>Yes</td>
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<td>N/A</td>
</tr>
<tr>
<td>Casual Staff member – with ANU pubs</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes – ANU eligible pubs only</td>
</tr>
<tr>
<td>Affiliate: Visiting, exchanged &amp; seconded staff - no ANU pubs</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Affiliate: Visiting, exchanged &amp; seconded staff - with ANU pubs</td>
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<tr>
<td>Affiliate: Unpaid staff - no ANU pubs</td>
<td>Yes</td>
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<tr>
<td>Affiliate: Unpaid staff - with ANU pubs</td>
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# Researcher Fields

<table>
<thead>
<tr>
<th>Researcher Type</th>
<th>Name &amp; Alternative Names</th>
<th>Staff Reference</th>
<th>FTE</th>
<th>FoR</th>
<th>Level</th>
<th>Status</th>
<th>Function</th>
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<tbody>
<tr>
<td>Staff Member Employed: Teaching &amp; Research - Full Time or Part Time</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Level A-E</td>
<td>Employed</td>
<td>Teaching &amp; Research</td>
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<tr>
<td>Staff Member Employed: Research Only - Full Time or Part Time</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Level A-E</td>
<td>Employed</td>
<td>Research only</td>
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<tr>
<td>Staff Member Employed: Other - Full Time or Part Time</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Other</td>
<td>Employed</td>
<td>Other</td>
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<tr>
<td>Staff Member Casual</td>
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<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Level A-E, Other</td>
<td>Employed on Casual Basis</td>
<td>Research only, Teaching &amp; Research, Other</td>
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<tr>
<td>Affiliate: Visiting, exchanged &amp; seconded staff</td>
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<td>Yes</td>
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<td>Level A-E, Other</td>
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<td>No</td>
<td>Yes</td>
<td>Level A-E, Other</td>
<td>Other</td>
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ANU process

• Collect new data
  • Creative works in ERA categories
  • Outputs from research done elsewhere
  • Esteem measures
  • Applied measures
ANU process

• Develop strategies for FoR coding
• Select FoR codes for outputs
  • Books, book chapters, conference papers (where not on ranked list)
  • Journal articles & conference papers on ranked lists
  • Grants, patents
• Select outputs for peer review
  • Develop criteria for selection
ANU process

- Obtain Scopus IDs
- Upgrade software
- Translate data into XML
- Develop ERA Repository
- Transfer metadata and copies of publications into ERA Repository
ANU process

- Managed submission centrally
- Mapped FoR clusters to Colleges
- Established Panels
  - Panel Chairs at 2- and/or 4- digit level
  - Panel Members
- Appointed College administrators to liaise between panels and Central RO staff
- Panels chose FoRs and identified outputs for peer review
<table>
<thead>
<tr>
<th>Broad Field of Research</th>
<th>Total CAT1 Income 2006-2008</th>
<th>Sm</th>
<th>% total</th>
<th>Total CAT 2-4 Income 2006-2008</th>
<th>Sm</th>
<th>% total</th>
<th>Research Outputs 2005-2008</th>
<th>Sm</th>
<th>% total</th>
<th>Researchers</th>
<th>Sm</th>
<th>% total</th>
<th>Applied and esteem Measures</th>
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<th>% total</th>
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<td>MATHEMATICAL SCIENCES</td>
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<td>0.47%</td>
<td>7.13</td>
<td>12.56%</td>
<td>82.7</td>
<td>125.3</td>
<td>61.82</td>
<td>6.49</td>
<td>41</td>
<td>71.44</td>
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<td>8.65</td>
<td>15.59%</td>
<td>82.9</td>
<td>125.3</td>
<td>61.82</td>
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<td>41</td>
<td>71.44</td>
<td>4.16%</td>
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<td>2.79</td>
<td>0.49%</td>
<td>82.9</td>
<td>125.3</td>
<td>61.82</td>
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<td>41</td>
<td>71.44</td>
<td>4.16%</td>
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<tr>
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<td>2.79</td>
<td>0.49%</td>
<td>82.9</td>
<td>125.3</td>
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<tr>
<td>INFORMATION AND COMPUTING SCIENCES</td>
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<td>19.9</td>
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<td>0.93%</td>
<td>5.02</td>
<td>8.77%</td>
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<td>9</td>
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<td>0.51%</td>
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<td>32.1</td>
<td>12.64%</td>
<td></td>
<td>4.5</td>
<td>2.31%</td>
<td>5.19</td>
<td>8.99%</td>
<td>50.8</td>
<td>78.5</td>
<td>35.11</td>
<td>3.81</td>
<td>28</td>
<td>28.27</td>
<td>1.58%</td>
</tr>
</tbody>
</table>
| ENVIRONMENT AND ANIMAL SCIENCES |                       | 0.2 | 0.08%  |                               | 0.1 | 0.05%  | 0.08 | 0.14%  | 0.1 | 0.1 | 0.05 | 0.01 | 1 | 1 | 0.01 | 0.01 | 0.01 | 0.01
| EDUCATION               |                             | 0.1 | 0.04%  |                               | 0.2 | 0.10%  | 0.21 | 0.36%  | 0.2 | 0.3 | 0.21 | 0.02 | 1 | 1 | 0.02 | 0.03 | 0.03 | 0.03
| ECONOMICS               |                             | 19.3 | 7.36%  |                               | 2.9 | 1.52%  | 16.41 | 27.82% | 25.4 | 39.7 | 14.5 | 1.59 | 12 | 12.61 | 0.71% | 27.82 | 4.69% | 29.2 | 21.6 |
| MANAGEMENT, TOURISM AND SERVICES |                     | 0.8 | 0.30%  |                               | 0.2 | 0.10%  | 0.6 | 1.03%  | 0.6 | 0.9 | 0.6 | 0.07 | 1 | 1 | 0.07 | 0.09 | 0.09 | 0.09
| STUDIES IN HUMAN SOCIETY |                             | 11.1 | 4.32%  |                               | 1.5 | 0.80%  | 9.59 | 16.47% | 19.6 | 30.6 | 12.6 | 1.36 | 11 | 11.11 | 0.63% | 16.47 | 2.72% | 13.8 | 10.1 |
| PSYCHOLOGY AND COGNITIVE SCIENCE |               | 2.5 | 0.96%  |                               | 0.4 | 0.22%  | 2.15 | 3.69%  | 2.15 | 3.4 | 2.15 | 0.24 | 1 | 1 | 0.24 | 0.34 | 0.34 | 0.34
| LAW AND LEGAL STUDIES   |                             | 4.3 | 1.64%  |                               | 0.7 | 0.37%  | 3.60 | 6.16%  | 5.6 | 8.8 | 3.60 | 0.38 | 3 | 3.33 | 0.19% | 6.16 | 1.03% | 6.3 | 4.7 |
| STUDIES IN CREATIVE ARTS AND WRITINGS |                | 1.0 | 0.38%  |                               | 0.2 | 0.10%  | 0.8 | 1.39%  | 0.8 | 1.2 | 0.8 | 0.09 | 1 | 1 | 0.09 | 0.13 | 0.13 | 0.13
| LANGUAGE, COMMUNICATION AND CULTURE |              | 8.4 | 3.23%  |                               | 1.2 | 0.63%  | 7.26 | 12.59% | 12.6 | 20.1 | 6.47 | 0.71 | 6 | 6.33 | 0.36% | 12.59 | 2.02% | 16.2 | 12.3 |
| HISTORY AND ARCHAEOLOGY |                             | 6.3 | 2.42%  |                               | 0.9 | 0.48%  | 5.40 | 9.28%  | 8.3 | 13.1 | 4.9 | 0.53 | 4 | 4.17 | 0.24% | 9.28 | 1.57% | 10.7 | 7.9 |
| PHILOSOPHY AND RELIGIOUS STUDIES |                     | 4.6 | 1.79%  |                               | 0.6 | 0.32%  | 3.99 | 6.76%  | 5.5 | 8.9 | 3.99 | 0.42 | 4 | 4.17 | 0.24% | 6.76 | 1.09% | 8.1 | 6.0 |

ANU Total: 223

Note: The figures were verified and validated by the ARC at the end of Stage 2 of the ERA process. A small number of journal publications were deemed ineligible during the Stage 2 verification and validation process and were withdrawn from the submission. As a result, there is a small variation in the total number of journal articles submitted between the Stage 1 and Stage 2 submissions. For similar reasons, several small groups were required to reduce their peer review selection volume. The apportioned counts of non-traditional works are based on raw counts of individual pieces and have not been aggregated into “portfolio.”
## ERA Research Outputs

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTE</td>
<td>1719</td>
</tr>
<tr>
<td>Total Apportioned Outputs</td>
<td>18091</td>
</tr>
<tr>
<td>Books</td>
<td>287</td>
</tr>
<tr>
<td>Book Chapters</td>
<td>2787</td>
</tr>
<tr>
<td>A* Journal</td>
<td>3450</td>
</tr>
<tr>
<td>A journals</td>
<td>4424</td>
</tr>
<tr>
<td>B Journals</td>
<td>2908</td>
</tr>
<tr>
<td>C Journals</td>
<td>1570</td>
</tr>
<tr>
<td>Unranked Journals</td>
<td>17</td>
</tr>
<tr>
<td>A Conferences</td>
<td>267</td>
</tr>
<tr>
<td>B Conferences</td>
<td>222</td>
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<tr>
<td>C Conferences</td>
<td>78</td>
</tr>
<tr>
<td>Other Conferences</td>
<td>1751</td>
</tr>
<tr>
<td>Non-traditional Outputs</td>
<td>330</td>
</tr>
</tbody>
</table>
Outputs – what we learned

- Continue to collect non-traditional works
- Collect previous outputs from new employees
- Collect SEOs to measure benefit
- Improve links with other systems (such as repositories)
Outputs – what we learned

• Need to improve collection processes
  • HERDC now even more significant
  • Quality data vital
  • Quality checking a shared responsibility – Colleges and RO
  • Different requirements for different purposes e.g. publications, HR, grants
People – what we learned

• Educate users about significance of coding HR records
• Significance of recording details of affiliates centrally
• Esteem measures
  • Collect regularly rather than just for ERA?
  • How to do it?
  • What would it be useful for?
What can ANU do now?

- Develop other uses for the ERA data
- Develop guidelines for strategic choice of FoRs when outputs are entered in database
- Expand collection of outputs, particularly creative works
- Work out how/if costs of process could be reduced
  - 27,086 hours (starting 2007)
  - 145 people (core – doesn’t include publication officers, DOI staff)
  - $1.5M salaries and on-costs (recovered approx 50% via IAP)
  - Systems costs unknown (received $768K via ASHER)
- Monitor research and publishing behaviour of researchers
- Use ERA data judiciously for internal performance assessments
What could be modified in ERA process?

Develop measures to

- Simplify submission process
- Measure benefit and or impact
- Capture high impact low volume or high excellence low volume
- Reduce Ensure Australia delivers high quality research
What could be modified in ERA process?

- Ranked lists – coding and ranking
  - Identify effect of FoR assignment to journals
  - Identify inconsistencies and correct them
  - Identify where Australian researchers publish
  - Predict and monitor behavioural changes

- Need mechanism for:
  - Suggesting changes to ranks
  - Suggesting additions to journal and conference lists
  - Suggesting changes to FoR codes
What could be modified in ERA process?

• Encourage development of Researcher IDs so outputs could be tracked more efficiently and reduce duplication of effort

• Assist in negotiation to change to HERDC criteria
  • Recognition of online publishing practices for journals – variation in date of publication

• Recognise other forms of outputs
  • Restrictions of HERDC e.g. only commercial publishers for books denies recognition of excellent research. What constitutes “research”? Differences between ERA needs and HERDC needs!
Thank You