

How “open” are universities?

An Australian case study

Full article @ <http://dx.doi.org/10.17613/r2sx-xg40>

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Background & Intro

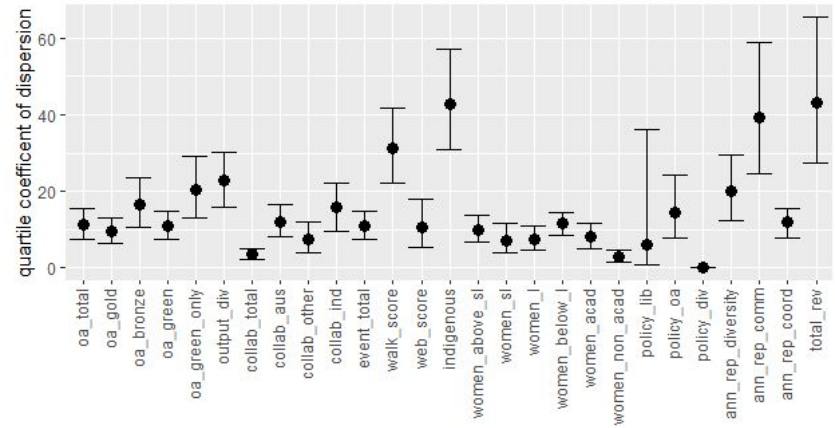
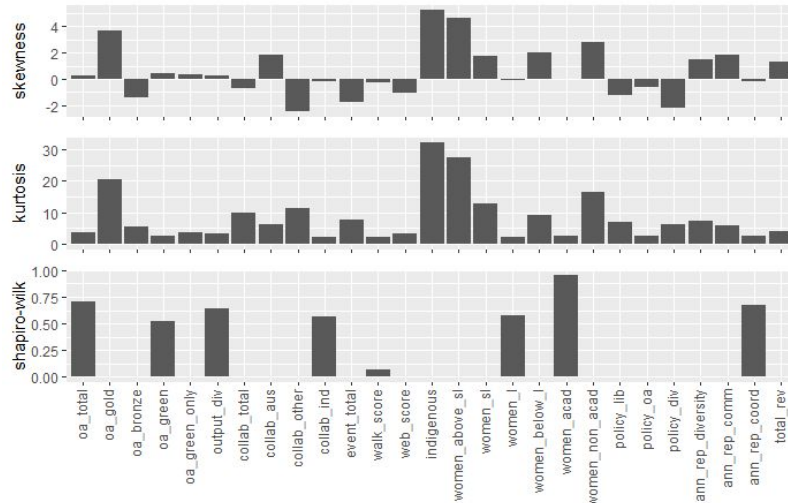
- Curtin Open Knowledge Initiative (COKI)
- Montgomery et al., 2018 - *Open Knowledge Institutions: Reinventing Universities*
- Evaluating OKIs - diversity, communication & coordination
- Exploring potential indicators for OKIs
- 43 Australian universities as a case study
- Identify:
 - relations across indicators
 - patterns across universities
- Dimensionality of information/signals

27 Indicators (focus on year 2016):

- Open Access (OA):
 - oa_total
 - oa_gold
 - oa_bronze
 - oa_green
 - oa_green_only
- Collaboration:
 - collab_total
 - collab_australia
 - collab_other
 - collab_industry
- Accessibility:
 - walk_score
 - web_score
- Diversity:
 - indigenous
 - women_above_sl
 - women_sl
 - women_l
 - women_below_l
 - women_acad
 - women_non_acad
- Policies & infrastructure
 - policy_lib
 - policy_oa
 - policy_div
- Annual reports
 - ann_rep_div
 - ann_rep_comm
 - ann_rep_coord
- Others:
 - output_div
 - event_total
 - total_rev

Summary of findings (1)

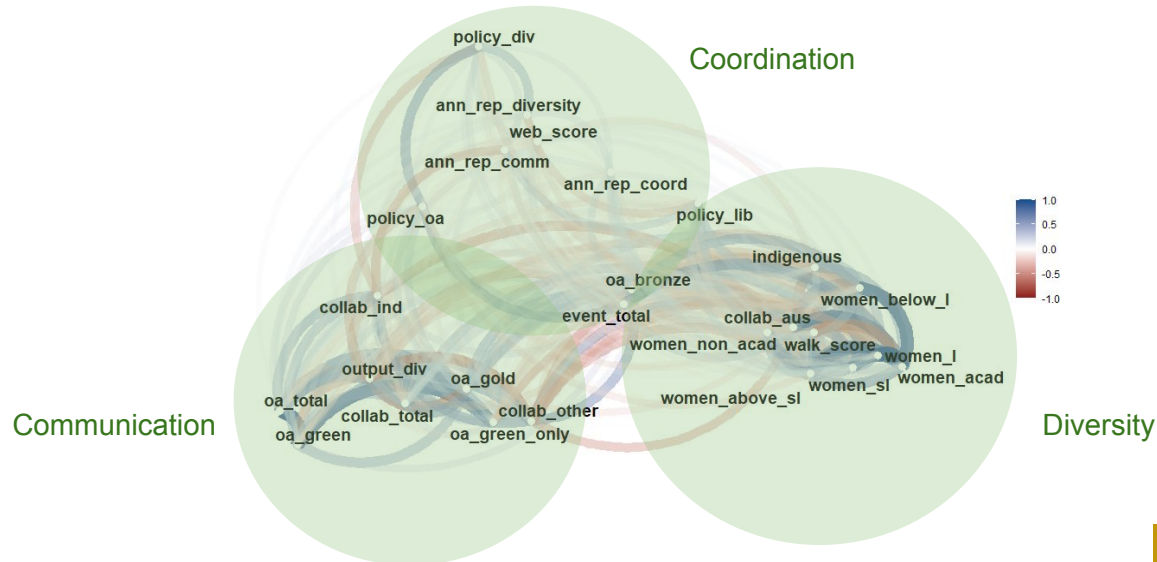
- High level of *disparity within many indicators* (with or without the extreme observations)
- **Robust statistical methods** needed due to extremes, missing values and scales of measurements



Summary of findings (2)

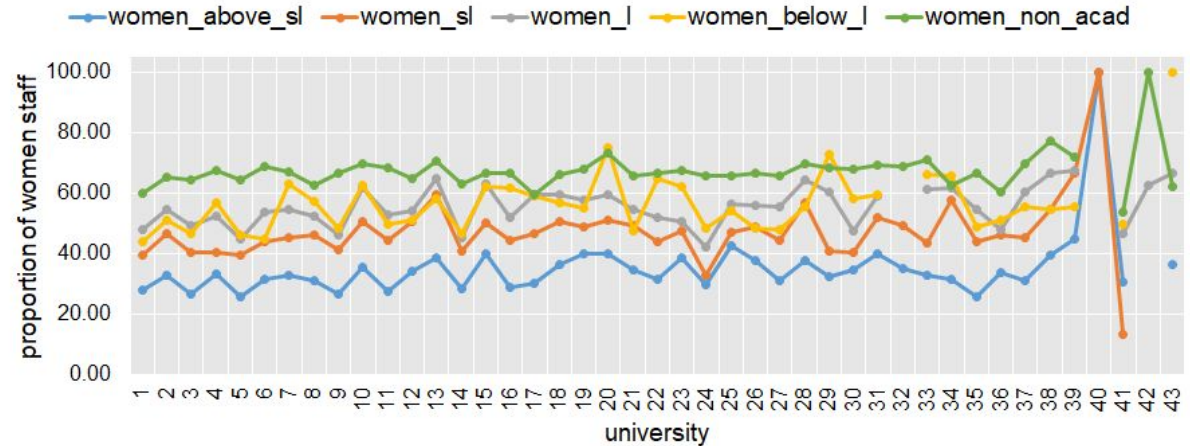
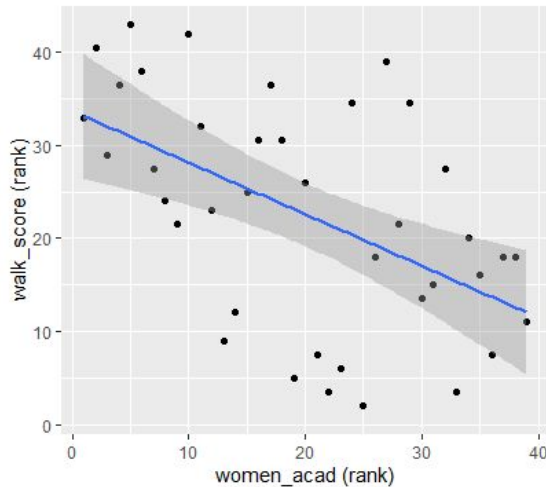
- OKI indicators group into three platforms of ***diversity***, ***communication*** and ***coordination*** (Montgomery et al, 2018)

A network plot of Spearman's rank correlation between OKI indicators (excluding total_rev).



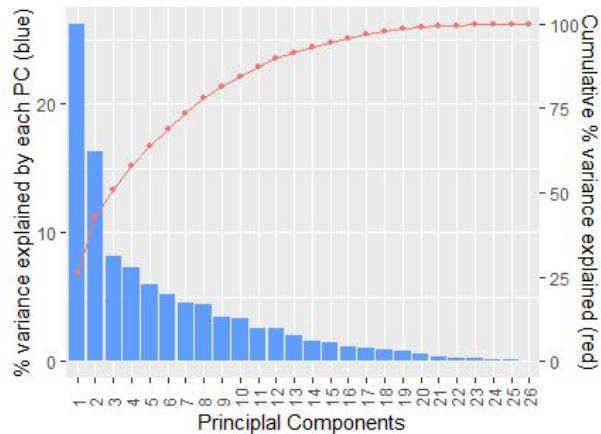
Summary of findings (3)

- Stronger focus on **green OA** (only low to moderately correlated to policy)
- **Locations effect** on diversity indicators (low correlation with policy) with progress remain at **more junior positions**.



Summary of findings (4)

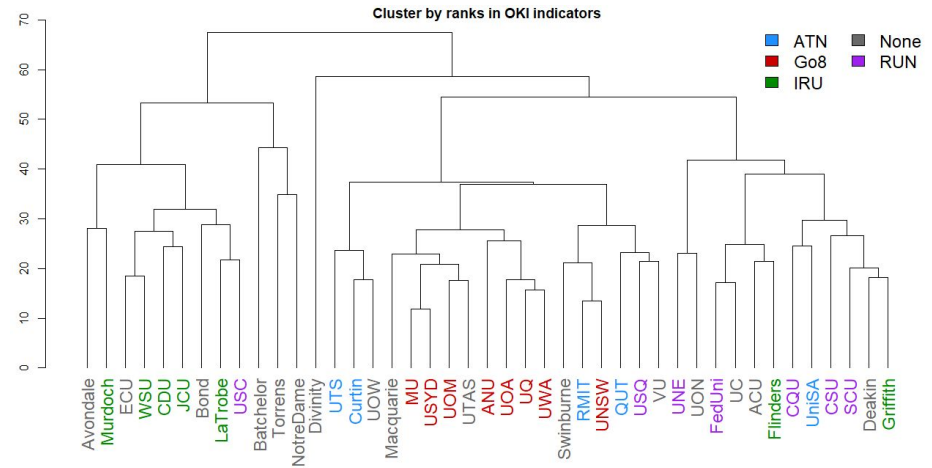
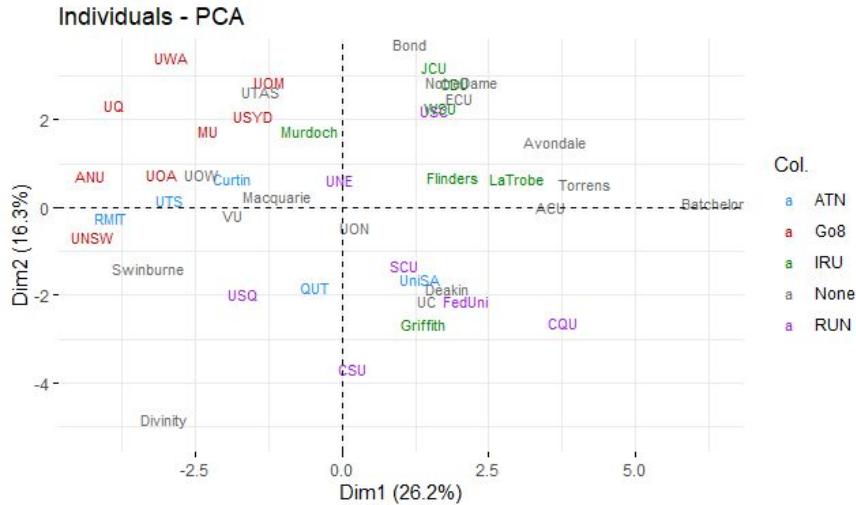
- Signals provided by these OKI indicators are **high-dimensional and complex** (in contrast to some university rankings)



| Platforms | Spearman PCA | | | ROBPCA | | |
|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | PC1 | PC2 | PC3 | PC1 | PC2 | PC3 |
| Diversity | 78.2% | 2.7% | 15.5% | 66.3% | 3.6% | 12.1% |
| Communication | 10.1% | 84.3% | 7.9% | 15.3% | 77.6% | 5.7% |
| Coordination | 3.6% | 3.4% | 61.6% | 3.2% | 10.8% | 79.1% |
| “event_total” | 2.3% | 4.6% | 13.6% | 9.9% | 2.5% | 2.9% |
| “oa_bronze” | 2.9% | 2.9% | 1.1% | 0.4% | 2.6% | 0.2% |
| “collab_ind” | 2.9% | 2.1% | 0.3% | 4.9% | 2.9% | 0.0% |

Summary of findings (5)

- Similarity within *university groupings* (e.g., Go8)



Further work & challenges

- Only outputs with Crossref DOIs are counted
- Missing and extreme values
- Manual work on document analysis - subjectivity and scaling-up
- Collecting data over larger scale
- Longitudinal pattern



Thank you~

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