

Appendix D—Summary of Questions

Section 3—Excellence in Research for Australia

ERA policy

Value of ERA

Q3.1 To what extent is ERA meeting its objectives to:

- a. Continue to develop and maintain an evaluation framework that gives government, industry, business and the wider community assurance of the excellence of research conducted in Australian higher education institutions. *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A large amount.

The ERA framework performs its designed activity of measuring and reporting the quality of research undertaken in Australian Universities.

The evaluation framework serves citation based disciplines well and we can see that it has catalysed improvement in these fields with ratings lifting across the 4 rounds of ERA. Peer review based disciplines have not had the same level of improvement however.

- b. Provide a national stocktake of discipline level areas of research strength and areas where there is opportunity for development in Australian higher education institutions. *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A large amount.

ERA offers a national stocktake of areas of strength. I'm not sure if it identifies areas where there is opportunity, but perhaps identifies areas of weakness that require strategic decisions to be made, to either improve or discontinue activity in those areas.

- c. Identify excellence across the full spectrum of research performance. *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A large amount.

Assessment across the full spectrum has been lacking due to the emergence of new areas of research, however this has been significantly improved by the release of 2020 ANZSRC FoRs.

- d. Identify emerging research areas and opportunities for further development. *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A moderate amount.

Identifying emerging areas has been lacking, however this has been significantly improved by the release of 2020 ANZSRC FoRs. ERA

identifies areas of weakness that require strategic decisions to be made, to either improve or discontinue activity in those areas.

ERA is a backward looking exercise suitable for examining past performance rather than identifying emerging opportunities or strengths. The research conducted underpinning the research outputs may extend back many years prior.

Universities may be reluctant to invest in emerging areas for fear of risking a low ranking.

- e. Allow for comparisons of research in Australia, nationally and internationally, for all discipline areas. *A very large amount; A large amount; A moderate amount; A small amount; Not at all. . Please explain your answer.*

WSU: A very large amount.

As ratings are comparative to world standard, this allows global comparisons. Australian citation benchmarks are typically higher than global citation benchmarks. ERA is not a national ranking as such, nor should it be. Although Universities can compare ratings between different Universities.

Being assessed using the ANZSRC FoRs makes sense locally and is relevant.

While citation based disciplines refer to global benchmarks, evaluation committees are predominately populated with Australian Academics, which means that the assessment has a national rather than international perspective.

- Q3.2 The ERA objectives are appropriate for meeting the future needs of its stakeholders. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

ERA is a good way to broadcast current research excellence to stakeholders and inform them.

Objective 2: “provide a national stocktake of discipline level areas of research strength and areas where there is opportunity for development in Australian higher education institutions”, could be reduced to “provide a national stocktake of discipline level areas of research”.

Objective 3 “identify excellence across the full spectrum of research performance” seems similar to Objective 5 “allow for comparisons of research in Australia, nationally and internationally, for all discipline areas”

- a. If you disagreed with the previous statement, what should the primary purpose of ERA be going forward? *Please explain your answer.*

WSU:

The objectives could be simplified:

1. develop and maintain an evaluation framework that provides assurance of the excellence of research conducted in Australian higher education institutions
2. provide a national stocktake of discipline level areas of research strength, identifying excellence across the full spectrum of research performance

Q3.3 What impacts has ERA had on:

- a. the Australian university research sector as a whole
- b. individual universities
- c. researchers
- d. Other?

Please explain your answers.

WSU:

The ERA results show that Research Quality has improved since the introduction of ERA. There has been an increase in the portion of UoEs rated at world standard or better, going from 68% in 2010 to 92% in 2018.

The use of citations for the STEM areas has driven a researcher and discipline focus on citations, which is reflected in enhanced ERA outcomes over the 4 ERA assessments (as well as enhanced global rankings). Meanwhile, the disciplines assessed by peer review (mostly HASS and some Maths) have experienced more modest improvements over the same period.

The introduction of ERA has caused Universities to take a measured and considered approach to their research activities. ERA has highlighted where each Universities areas of strength are, resulting in University attention to research quality becoming more focused.

Traditionally individual researchers have focused on producing a large quantity of research outputs. This is changing, with quality becoming more important.

Q3.4 How do you use ERA outcomes? *Please describe.*

WSU:

WSU uses ERA ratings along with other global rankings as marketing opportunities to promote our areas of strength.

ERA data is used to assess the research performance of staff and factors into workload models.

ERA is supporting our shift to a focus on quality and excellence.

University strategies consider ERA objectives and outcomes.

Support is provided to areas that are performing well, or where improvement is desired.

Q3.5 ERA outcomes are beneficial to you/your organisation. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree.

WSU uses ERA ratings along with other global rankings as marketing opportunities to promote our areas of strength.

Rankings can affect students' choice of University, with flow on financial benefit.

Rankings can affect Academics choice of employment, which can further enhance our teaching and research.

Q3.6 Do you have any suggestions for enhancing ERA's value to you/your organisation? *Please explain your answer.*

WSU:

ERA methodology

ERA methodology at a glance

Q3.7 The current methodology meets the objectives of ERA. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree.

While there are other research ranking exercises performing in other countries, with different methodology, the Australian methodology is appropriate. It is thorough and complete, and focussed at an appropriate level.

The current methodology serves citation based disciplines well and we can see that it has catalysed improvement in these fields with ratings lifting across the 4 rounds of ERA. Peer review based disciplines have not had the same level of improvement however. The methodology for current peer review based disciplines needs to be reconsidered, refer Q3.9.

Q3.8 What are the strengths of the overall methodology? *Please describe.*

WSU:

ERA is a mature process with Academic committees determining the end result.

Using citation metrics provides a sound basis for assessment.

ERA provides a significant opportunity to get a sense of the work going on across the discipline, nationally. This is a key opportunity to gain detailed insight into the research going on outside of our University.

Q3.9 What are the weaknesses of the overall methodology? *Please describe.*

WSU:

The cost of the ERA exercise is significant, particularly the peer review process. ERA is a major project at Universities, absorbing many resources for many months. It would be better that our Academics perform research, rather than wrangle with administrative activities such as preparing an ERA submission.

The FoRs that are subject to citation analysis could be expanded. There are several FoRs that would be suitable for this assessment method that are currently subject to peer review, including FoRs within: 13 – Education, 14 –

Economics, 15 - Commerce, Management, Tourism and Services & 16 - Studies in Human Society. These FoRs had at least 61% of their publications as journal articles in ERA 2018, and the average cites per paper are similar to the citation disciplines.

There are FoRs that would benefit from a hybrid assessment model. FoRs within 08 - Information and Computing Sciences & 12 - Built Environment and Design both had 39% of publications as journal articles and the average cites per paper are similar to the citation disciplines. Citation data could be provided for journal articles and 30% selection could be made for other publication types.

Lack of transparency.

As there is no feedback, it can be difficult to understand why a certain rating has been given. There seems to be a reasonable expectation that an RCI of 1 means the research is being cited at a rate comparable to the world average, and that a rating of 3 is therefore likely. However, there are other aspects to the assessment and it is not clear what weighting these hold, or the impacts of these. It would be beneficial to have feedback to Universities advising why we received the rating we did and where we need to improve.

While citation disciplines can use metrics as indicators, there are no measures or feedback that is useful for Peer Review disciplines.

There are variances in the way Universities evaluate publications as ERA eligible or not. Each University has its own variance of the guidelines, so there is a lack of consistency.

The guidelines become outdated rapidly. We are currently assessing publications back to 2016 based on the ERA 2018 guidelines. These were last released in Jan 2019 and unlikely to be replaced/updated until late 2022. We are auditing publications based on very old guidelines, then have to re-audit when new guidelines are released. When publications were part of the Higher Education Research Data Collection (HERDC), guidelines were released annually. We should be able to audit a publication today based on today's criteria, not based on guidelines that may come in 6 years' time.

There are variances in the way Universities classify publication types. As an example, a search of the ARC ERA 2018 Data Portal shows that some Institutions have classified AHURI Research Reports as a variety of publication types, including:

- Book
- Journal Article
- Research Report for External Body
- Portfolio

<https://dataportal.arc.gov.au/ERA/Web/#/20/1/ahuri/>

Potentially Universities are not classifying these works correctly, or there are options. This suggests there is not a clear understanding of the guidelines or they are open to interpretation.

It would be ideal to have a greater presence of International Academics on the evaluation committee to provide a truly global perspective.

It is unclear how the Applied Measures indicators relate to research excellence.

It is unclear how the 2 digit Explanatory Statements are useful to evaluation committees.

Citation analysis methodology

Q3.10 The citation analysis methodology for evaluating the quality of research is appropriate. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Strongly agree.

“Citation analysis is used for disciplines in which research findings are predominantly disseminated through academic journals and there are sufficient outputs in indexed peer-reviewed journals to allow robust citation analysis.”

We believe that citation analysis could be expanded to reduce the burden on Universities and the assessment process.

At the 2 digit FoR level, there are currently 9 citation based disciplines that have at least 80% of their outputs that are journal articles, plus 09 – Engineering with 64% of outputs that are journal articles. This ignores FoR 10 – Technology which has been absorbed into other fields in the 2020 FoR list.

There are peer review disciplines with a reasonable proportion of journal articles, that could be considered for citation analysis. The question is where is the line in the sand? If we consider “predominantly disseminated through academic journals” to be 70%, this would add the disciplines:

- 14 – Economics (81%)
- 15 - Commerce, Management, Tourism and Services (72%)

which would be excellent candidates for citation analysis. If we consider proportion of journal articles above 60%, this would add:

- 18 - Law and Legal Studies (63%)
- 16 - Studies in Human Society (61%)
- 13 – Education (59%, very close to 60%)

which are also very good candidates for citation analysis.

It could also be argued that the quality of the journal articles in these FoRs would be of very similar quality, or highly indicative of the quality, of the other publication types.

Q3.11 Does the discipline-specific approach for evaluating research quality (citation analysis or peer review for specific disciplines) continue to enable robust and comparable evaluation across all disciplines?

WSU:

Yes, ratings are comparable across all disciplines.

However, potentially more disciplines could be subject to citation analysis, or a hybrid method could be used. This would reduce the number of items required to be nominated for peer review (30% of outputs), reducing the effort for Universities and assessors.

There could be “citation based disciplines” and “citation and peer review disciplines”. Citation analysis could be used to evaluate the journal articles, with peer review required for the other publications types. For example, in FoR 12XX, citation analysis could be used for journal articles. Universities then only need to

select 30% of publications for peer review for the other publication types.
Evaluation committees would review both methods to determine a single rating.

Q3.12 What are the strengths of the citation analysis methodology? *Please describe.*

WSU:

Academics referencing other works is a practice that has existed for many years. It is typical behaviour in many disciplines and provides a method of assessing the quality and reach of works within the Academic community. Using Citation analysis remains a dominant measure of research quality as used in global rankings.

A key strength is the calculation of RCI based on world citations. Examining the distribution of papers also enables one to see how individual papers may be biasing/driving RCI estimates for a discipline.

Citation analysis allows Universities to more easily perform self-assessments to gain a better understanding of how they are tracking at any time, and with a high level of predictability. The Field Weighted Citation Index (FWCI) thresholds for FoRs using citation analysis are broadly known (a FWCI of 1.0 = World Standard ranking of 3 etc).

Citation analysis is a robust measure of quality for many disciplines, as evidenced by the fact that citation providers all provide similar metrics. Elsevier has FWCI, Clarivate has CNCI, Dimensions has FCR. They are all similar to the ERA RCI, with the significant difference being the way subjects are classified.

Centile analysis is also an important consideration, particularly:

- Percent of Documents in Top 1% - Field weighted
- Percent of Documents in Top 10% - Field weighted

Q3.13 What are the weaknesses of the citation analysis methodology? *Please describe.*

WSU:

Some articles have hundreds of authors and these attract thousands of cites. Inclusion of these can distort citation metrics calculations. An example of this is the Global Burden of Disease study. Potentially two RCIs could be calculated, one including all articles, and one which excludes the articles with hundreds of authors.

Q3.14 Can the citation analysis methodology be modified to improve the evaluation process while still adhering to the ERA Indicator Principles? *Yes/No.*

a. If you answered 'Yes', please describe how the methodology could be improved.

WSU: Yes

Reviewers are provided with comparisons to Australian University benchmarks. As we are being assessed against world benchmarks, this comparison is invalid and should be excluded as they could be deceptive and may influence ratings against world standard. Refer ERA Evaluation handbook:

- RCI: page 37 – Table 15.

- Proportion of UoE contribution to Australian HEP FoR total papers and citations: page 38 – Table 16
- Centile Analysis: page 39 – Table 17

The ERA Evaluation handbook states “Table 17 shows that this UoE had 11.0 (3%) papers in the top 1% of cited papers in the world. This is compared against the Australian HEP percentage of papers which had 1% in this centile band. In the top 5% of cited papers the UoE had 46.5 papers or 12% of its total papers. The Australian HEP percentage for the FoR code was 7% of papers.”

The comparisons against the Australian HEP are invalid as the ratings are relative to world standard, not to Australian Universities. The comparison should be simply “Table 17 shows that this UoE had 13% of papers in the top 1% of cited papers in the world. In the top 5% of cited papers the UoE had 12% of its total papers.”

Currently there is a warning for reviewers if there are articles with an individual RCI above 8. Normally this relates to a small number of articles. As they can have such a significant impact on the RCI, a separate RCI could be calculated excluding these articles. This would provide an additional perspective of the quality of the articles. Consideration could be given to the percentage of these items. For example, if there is more than 5% of the articles with an RCI above 8, then they are not a small number of articles distorting calculations, but fairly represent the works overall.

Feedback from evaluation committees in the form of brief explanations would be helpful.

Peer review methodology

Q3.15 The peer review methodology for evaluating the quality of research is appropriate. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

The peer review methodology is not transparent or predictable. It is not possible for Universities to track research quality or perform a self-assessment in the same way that can be done with citation based disciplines.

The methodology does not incentivise behavioural changes or an improvement in research quality. Peer review disciplines have not improved across the 4 rounds of ERA in the same way that citation based disciplines have.

The peer review methodology requires significant resources from each University and also for the actual assessment exercise undertaken by reviewers and committee members.

There are several FoRs that are currently subject to peer review that would be suitable to be assessed using citation analysis. This includes FoRs within: 13 – Education, 14 – Economics, 15 - Commerce, Management, Tourism and Services & 16 - Studies in Human Society. These FoRs had at least 61% of their publications as journal articles in ERA 2018, and the average cites per paper are similar to the citation disciplines.

There are FoRs that would benefit from a hybrid assessment model. FoRs within 08 - Information and Computing Sciences & 12 - Built Environment and Design both had 39% of publications as journal articles and the average cites per paper are similar to the citation disciplines. Citation data could be provided for journal articles and 30% selection could be made for other publication types.

The use of citations for the STEM areas has driven a researcher and discipline focus on citations, which is now reflected in enhanced ERA outcomes over the period (and enhanced global rankings). The peer review disciplines have experienced more modest improvements over the same period.

Q3.16 What are the strengths of the peer review methodology? *Please describe.*

WSU:

The selection of REC members and ERA peer reviewers used to assess research. If they have excellent standing, they will be able to provide an accurate assessment.

There is a small number of disciplines where citations can not be used as an indicator of quality in any circumstance. However, there are some current peer review disciplines that would benefit from using citation analysis of journal articles to aid assessment of the field.

Q3.17 What are the weaknesses of the peer review methodology? *Please describe.*

WSU:

The sampling procedure used to assess 30% of outputs. It appears this sampling strategy varies depending on the assessors. It should be standardised (or at least randomised) to ensure consistency and fairness across disciplines and assessor panels.

It is a subjective analysis and subject to personal bias. It appears that the peer review disciplines in Australia do not perform as well as citation disciplines, which seems unusual or unlikely. This can bring the methodology into doubt.

The cost of the peer review process is significant. ERA is a major project at Universities, absorbing many resources for many months. It would be better that our Academics perform research, rather than wrangle with administrative activities attempting to get a good rating.

Evaluation committees are predominately populated with Australian Academics, which means that the assessment has a national rather than international perspective.

It would be ideal to have a greater presence of International Academics on the evaluation committee to provide a truly global perspective.

Q3.18 Can the peer review methodology be modified to improve the evaluation process while still adhering to the ERA Indicator Principles? *Yes/No.*

a. If you answered 'Yes', please describe how the peer review methodology could be improved.

WSU: Yes

There are several FoRs that are currently subject to peer review that would be suitable to be assessed using citation analysis. This includes FoRs within: 13 – Education, 14 – Economics, 15 - Commerce, Management, Tourism and Services & 16 - Studies in Human Society. These FoRs had at least 61% of their publications as journal articles in ERA 2018, and the average cites per paper are similar to the citation disciplines.

There are FoRs that would benefit from a hybrid assessment model. FoRs within 08 - Information and Computing Sciences & 12 - Built Environment and Design both had 39% of publications as journal articles and the average cites per paper are similar to the citation disciplines. Citation data could be provided for journal articles and 30% selection could be made for other publication types.

Ensure that a clear and strategic sampling strategy is used for assessing outputs. This should not be left to the panel to decide how on a case-by-case basis but rather follow a rigid protocol. Otherwise, there will inevitably be variability introduced into the assessment.

Feedback from evaluation committees in the form of brief explanations would be helpful.

Contextual indicators

Q3.19 The volume and activity indicators are still relevant to ERA. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Neither Agree nor disagree

It is unclear how the Staff indicators relate to research excellence.

It is unclear how the 2 digit Explanatory Statements are useful to evaluation committees.

Q3.20 The publishing profile indicator is still relevant to ERA. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

Reviewers are provided with comparisons to Australian University benchmarks. As we are being assessed against world benchmarks, this comparison is invalid and should be excluded as they are deceptive and may influence ratings against world standard. Refer ERA Evaluation handbook:

- RCI: page 37 – Table 15.
- Proportion of UoE contribution to Australian HEP FoR total papers and citations: page 38 – Table 16
- Centile Analysis: page 39 – Table 17

Q3.21 The research income indicators are still relevant to ERA. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Neither Agree nor disagree

It is unclear how the Funding indicators relate to research excellence.

Breaking research income into Cat 1, 2, 3 and 4 is useful but it is not clear how weighting is given to each category.

Q3.22 The applied measures are still relevant to ERA:

- a. Patents. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Strongly disagree

It is unclear how the Applied Measures indicators relate to research excellence.

As patents are costly to register, the numbers are minimal and applicable to Institutions with large budgets. They are laborious to record and report. Patents offer little as an indicator of research quality.

- b. Research commercialisation income. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

It is unclear how the Applied Measures indicators relate to research excellence.

This is laborious to record and report. There are typically small amounts which means that they offer little value and are not a strong indicator of research quality. Potentially this is more relevant as an indicator of engagement.

- c. Registered designs. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Strongly disagree

It is unclear how the Applied Measures indicators relate to research excellence.

These are laborious to record and report. There are so few that they offer little value and are not a strong indicator of research quality.

- d. Plant breeder's rights. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Strongly disagree

It is unclear how the Applied Measures indicators relate to research excellence.

These are laborious to record and report. There are so few that they offer little value and are not a strong indicator of research quality.

- e. NHMRC endorsed guidelines. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Strongly disagree

It is unclear how the Applied Measures indicators relate to research excellence.

These are laborious to record and report. There are so few that they offer little value and are not a strong indicator of research quality.

ERA rating scale

Q3.23 The five-band ERA rating scale is suitable for assessing research excellence. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

Q3.24 Noting that 90% of units of evaluation assessed in ERA 2018 are now at or above world standard, does the rating scale need to be modified to identify excellence? Yes/No.

a. If you answered, 'Yes', please explain how the rating scale can be modified to identify excellence.

WSU: No

It is appropriate that Australian research is compared to world standard.

However, the volume of outputs submitted could be provided to provide a sense of the scale of the rating.

ERA low-volume threshold

Q3.25 The ERA low-volume threshold is appropriate. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

Changing the threshold will have a significant impact on some Universities. This could result in some Universities being ranked well above world standard in ERA 2018 in some disciplines, and not being ranked at all in ERA 2023, which would look unusual and of major concern. Potentially some Universities could lose their status as being classified as a University, per the Coaldrake review.

<https://www.education.gov.au/review-higher-education-provider-category-standards>. This would be highly undesirable for the sector, especially considering the current financial dilemmas due to CoVid.

If thresholds are to be lifted, then a mechanism needs to be available for a quality assessment of FoRs with volumes above 50. Refer Q3.26.

Q3.26 Are there ways in which the low-volume threshold could be modified to improve the evaluation process? *Please describe.*

WSU:

The low volume threshold is working well as it is. It is set at a reasonable and sensible level.

If it were to be increased, it would be appropriate to have an option to opt in for assessment which would allow smaller Universities to have their areas of strength assessed.

ERA staff census date

Q3.27 What is the more appropriate method for universities to claim research outputs—staff census date or by-line? *Please explain your answer.*

WSU:

Census date is appropriate as it reflects the current employment of the University and its focus for the future. It is more accurate than using a by-line method which generates a picture that is out dated.

For example, in ERA 2018 the staff census date was 31 Mar 2017, with results released in Dec 2018. There is nearly a two year lag and potentially the research landscape of the University has changed.

However, based on by-line, this is even worse. In ERA 2018 the publication reference period was 2011 to 2016, with results released in Dec 2018. There is a lag of 2 to 7 years. Universities would be assessed on research activities performed by staff who have left the Institution up to 7 years ago.

Staff census date accommodates the outputs of new staff to the University that would otherwise not be included. It can take new staff several years to start a new research group after moving institutions meaning that the by-line approach would unfairly disadvantage them.

Universities diligently collect and audit publication information to ensure compliance with ERA guidelines, which is used for internal purposes, e.g. Staff profiles, promotion applications, grant applications, workload assessments. Typically, researchers like to ensure this information is accurate and complete.

The benefits of Universities submitting data based on byline are not obvious.

Q3.28 What are the limitations of a census date approach? *Please describe.*

WSU:

It is significant effort for Universities to collate this information.

Annual HEIMS data could be used for ERA, instead of providing this data again.

FoRs could be assigned to each individual based on the publications submitted.

Q3.29 Would a by-line approach address these limitations? *Yes/No. Please explain your answer.*

WSU: No, refer Q3.30

Q3.30 What are the limitations of a by-line approach? *Please describe.*

WSU:

ERA 2018 contained publications from 2011 to 2016, for staff as at census date 31 Mar 2017, with submission in May 2018, followed by assessment and results released in Dec 2018.

Moving to a by-line model rather than a census date model will make the publication dataset more “laggy”. It will be based more on where the University was during a prior 6-year period, rather than its current research focus. Universities would be assessed on research activities performed by staff who have left the Institution up to 7 years ago.

If publications data were to be harvested from citation providers based on by-line, there would be significant data gaps for the peer review analysis disciplines, which do not have a large proportion of research outputs that are journal articles.

Books, chapters, NTROs and research reports would not be gathered adequately.

Another limitation is the time it takes for new researchers to establish a research program and publish with the University named in the by-line. This means that many new staff may not have publications counted for a few years and therefore would not contribute as much to the assessment. This would most likely impact ECRs unfairly.

ERA interdisciplinary research and new topics

Q3.31 ERA adequately captures and evaluates interdisciplinary research. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

- a. If you disagreed with the previous statement, how could interdisciplinary research best be accommodated? *Please describe.*

WSU: Agree

ERA and Indigenous research

Q3.32 My institution would meet ERA low-volume threshold in Indigenous studies at:

- a. Two-digit? *Yes/No. If you answered ‘yes’, please list which ones.*
b. Four-digit? *Yes/No. If you answered ‘yes’, please list which ones.*

WSU: Too early to say

Q3.33 In ERA, the best approach for evaluating Indigenous Studies is (*choose one*):

- a. Using established ERA methodology i.e. the low-volume threshold would apply to the Indigenous Studies discipline and all its specific disciplines
b. For Aboriginal and Torres Strait Islander studies by combining low-volume disciplines into single units of evaluation
c. For Aboriginal and Torres Strait Islander studies by combining low-volume disciplines into two units of evaluation (one unit comprising Humanities, Arts, and Social Sciences disciplines and one unit comprising Science, Technology, Engineering and Mathematics disciplines)
d. Other. *Please describe.*

WSU:

We recommend using a low volume threshold with an option to opt in for assessment.

- Q3.34 What would be the advantages and/or disadvantages of your preferred approach for evaluating Indigenous studies in ERA? *Please describe.*

WSU: Visibility and recognition of Aboriginal and Torres Strait Islander studies

ERA process

Collection of ERA data

- Q3.35 ERA should move to an annual collection of data from universities. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Neither agree nor disagree

- Q3.36 What would be the advantages and/or disadvantages of an annual data collection? *Please describe.*

WSU:

It may be a suitable option for publications to be submitted annually. An annual data collection would make the submission process a “business as usual” approach. Additional staff would be required to manage the process on an ongoing basis, rather than once every few years. This would impose additional cost on Universities when they can currently not afford it.

If publications were provided annually by Universities, we would need a mechanism to select 30% of items for peer review, as the best works may not be spread equally across the years. Also, if submitted annually, it would be too early to identify whether a publication could be identified as better than the others in the collection.

Consideration would need to be given to whether the 30% selections for peer review are done progressively as part of the annual submission, or if Universities were to make the selections once every few years as part of the ERA review process.

Publication guidelines should be reviewed annually if an annual collection were to occur, which would be beneficial for the sector.

Staff data should be obtained via the HEIMS annual staff data collection.

Income data should be obtained from the annual HERDC data collection.

Publication of ERA data

- Q3.37 In future ERA rounds, should the volume of outputs submitted for each unit of evaluation be included in the National Report?

- Yes, *Please explain your answer.*
- No, *Please explain your answer.*

WSU: No

ERA is intended to measure quality, not quantity. The size of the organisation or scale of publications should not be considered as part of this exercise.

If the volume were reported, this could negatively influence the understanding of the ratings.

Q3.38 In future ERA rounds, research outputs should be published with their assignment to specific disciplines following completion of the round. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

a. What would be the advantages? *Please explain your answer.*

b. What would be the disadvantages? *Please explain your answer.*

WSU: Yes

More transparency would be useful. This would also minimise the likelihood of erroneous assignments.

It may promote alignment of FoR assignment by Universities for co-authored publications.

Q3.39 What other data do you think the ARC should publish following an ERA round? *Please describe.*

WSU: Nil

Section 4—Engagement and Impact Assessment

EI Overview

Q4.1 Considering that EI is a new assessment, to what extent is it meeting its objectives to:

a. encourage greater collaboration between universities and research end-users, such as industry, by assessing engagement and impact? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A small amount

Only a select group of academics were actively involved in developing the impact cases studies for the 2018 EI assessment (one case study for each of the two digit FORs). Additionally, quantitative data for engagement activities were provided through university research offices. The EI assessment has certainly elicited a small change in academics' perspectives on research collaboration, but to see a significant change over time, it is crucial for the EI exercise to be more comprehensive.

The impact and engagement process has allowed the valuation of areas of research that has not heretofore been assessed in such a manner. In the pilot and first rounds of the assessment, the elements of engagement and impact that have been picked up in the assessment were examples of already existing mature engagement and impact. As such, this new rating

has allowed engaged-researchers, particularly in applied fields where the impacts of research are more readily transferred outside of the university, to showcase the excellent research they were already doing. It is unclear if this has encouraged greater collaboration between universities and end-users.

Further, the rewards for doing engaged and impactful research are implicit - often tangible and self-evident for those who take part. It is unclear at this point how assessment will increase these rewards beyond providing the basis for investment in this aspect of research.

- b. provide clarity to the Government and the Australian public about how their investments in university research translate into tangible benefits beyond academia? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A small amount

Although the impact cases submitted to the 2018 EI assessment provided a brief picture of how investments in university research translate into societal good, it was only a representative sample. The EI assessment in its current form and the results do not provide comprehensive data on the tangible benefits of research beyond academia.

To provide greater clarity of the value of research engagement and impact, this regime of value needs to be better articulated with other values associated with research. Rather than being framed as the best way to value research, this should be framed as another important way of valuing research, alongside the 'traditional' values associated with scholarly research.

Rather than a cost-benefit analysis of research that more-often-than-not leads to a reductive notion of the economic value-added and return on investment, a plurality of values need to be identified and set in a relational frame. Currently, the engagement and impact process pits applied research against pure research. An explicit articulation of the plural and incommensurable values of research to its various communities, both within and beyond academia, would help to demonstrate how engagement and impact articulates with other orders of worth (social/political/economic/cultural).

One way to achieve this might be to better align with other accepted plural value frames, such the Sustainable Development Goals; Human Rights agendas; and the various intellectual missions of academia.

- c. identify institutional processes and infrastructure that enable research engagement? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A moderate amount

The EI assessment has generated a moderate shift in how universities strategically assess their institutional processes and infrastructure to assist researchers to effectively engage with their partners and end users of research. This includes university investments in training and education on effective research collaboration, seminars and forums involving industry

and university, and support for researchers with generating and sustaining their external collaborative networks.

- d. promote greater support for the translation of research impact within institutions for the benefit of Australia beyond academia? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A large amount

The EI exercise has instigated universities to start thinking about their impact and research translation strategies, and how cultural shifts can be made at the organisational level so researchers start to integrate impact into their research agenda from the conceptual stages.

- e. identify the ways in which institutions currently translate research into impact? *A very large amount; A large amount; A moderate amount; A small amount; Not at all. Please explain your answer.*

WSU: A small amount

Under the current definitions of impact, the EI Assessment process appears to do a good job of capturing and highlighting research translation. However, a more generous definition of research translation and its relationship to impact would better cover a full scope of the impacts of research. Further, secondary effects of research that lead to impacts are not well-identified. This concerns the exclusive definition of impact that marks it off from scholarly impacts (how pure research might lead to societal change) and sectoral impacts that exclude the university sector. For example, the current shift in teaching in the university sector to online/remote-access learning is an important area of education research that has potential impacts for the wider education sector. Under current impact definition, this learning and teaching research is not deemed to be impact as it happens within the university sector. Contributions such as these need to be better reflected in impact assessment.

- Q4.2 The EI objectives are appropriate for the future needs of its stakeholders. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Neither agree or disagree

In its current form (methodology), the EI objectives are not fully relevant to the future needs of its stakeholders.

The objectives point to the importance of recognising the direct impacts of research and the relationships built between the university sector and wider society. They do this in a high-level broad-brush manner that is mostly reasonable. However, by stating that impacts must be understood as contributions 'beyond academia', these objectives do not provide for the recognition of the full scope of impact and engagement. A hermetic separation of 'academia' from society at this meta-level problematises the increasingly porous interchange between universities and stakeholders in the wider community, serving to reify this boundary. It fails to reflect the multiple outcomes of research, instead presenting 'academic' outcomes and 'societal outcomes' as mutually

exclusive. In this way, point 3 conflicts with point 4. We cannot identify the ways institutions currently translate research into impact if we say that research impact is only to be measured 'beyond academia'.

Q4.3 What impact has EI had on:

a. the Australian university sector as a whole? *Please describe.*

The EI exercise has been a resource intensive exercise for the sector as a whole but has been effective in mobilising universities to think about accountability to funding bodies and the public. It has also encouraged organisations to consider the provision of more effective support to researchers in conducting and delivering impactful research.

b. Individual universities. *Please describe.*

The EI exercise takes up a disproportionate amount of time and energy of academics involved and research office staff relative to its benefits.

However, it has helped to identify areas of applied and engaged research that have not been well recognised or accounted for in the past, including Category 2 and 3 funded research, and unfunded research. This has justified a strategic focus beyond Category 1 funding at a time of increased accountability for what has become increasingly competitive research funding arena.

It better accounts for the full scope of research conducted by university-based researchers.

Nonetheless, it has also set up a bifurcation of applied and pure research in research strategy and infrastructure.

c. researchers. *Please describe.*

Provides alternate avenues for recognition of research achievement – a new regime of value, or order of worth – which helps to secure academic career paths, particularly for early- and mid-career researchers who find it difficult to access Category 1 competitive funding.

d. other sectors outside of academia? *Please describe.*

Q4.4 How do you, or your organisation, use EI outcomes? *Please describe.*

WSU: EI outcomes have been used:

- To showcase the excellent research being undertaken by our academics
- To publish impact stories in *Future Makers* magazine (Nature publication)
- For education and training
- For comparison with the sector
- To set a benchmark for future EI assessments
- To identify gaps in the approaches taken by researchers to: collaborate with stakeholders; and in designing their research
- To assess requests for internal research funding

Q4.5 The EI outcomes are valuable to you or your organisation. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

Q4.6 How else could EI outcomes be used? *Please describe.*

WSU:

- Assessment of applications for academic promotions
- Assessment of grant applications
- Creating an impact portfolio

EI definitions

Q4.7 The current Engagement definition is appropriate. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree.*

WSU: Agree

- a. If you don't agree, what are your suggested amendments to the Engagement definition? *Please describe.*

WSU:

Q4.8 The current Impact definition is appropriate. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree.*

WSU: Disagree

- a. If you don't agree, what are your suggested amendments to the Impact definition? *Please describe.*

WSU: We would like to see the definition of impact being broadened. The current definition of research impact can be regarded as part of research governance process that places an increasing demand for researchers to demonstrate the contribution of their research to societal good, where impact is almost always associated with 'benefits.' However negative impacts of research can be equally or even more important in informing research translation and implementation and in avoiding costly errors. Therefore, indirect contributions to research (soft impact) should form part of the definition of impact.

Often academics are able to demonstrate 'research use' where impact may not be tangible or measurable. 'Research use' may have prevented a 'negative' phenomenon occurring but in many instances cannot be quantified despite having an impact.

Q4.9 The current end-user definition is appropriate. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree.*

WSU: Agree

- a. If you don't agree, what are your suggested amendments to the end-user definition? *Please describe.*

WSU:

- b. Are there any end-user categories excluded in the current definition of research end-user that you think should be included? *Please explain your answer.*

WSU: Yes.

Higher education institutions and their affiliates.

- Q4.10 Are there other key terms that need to be formally defined? *Yes/No. If you answered 'Yes', please explain your answer.*

WSU: No

El methodology

Unit of assessment

- Q4.11 Are the two-digit Field of Research codes the most appropriate method to define units of assessment for Engagement and Impact? *Yes/No. Please explain your answer.*

WSU: Yes

- Q4.12 Are there other ways to classify units of assessment in EI, for example, SEO codes? *Yes/No. Please explain your answer.*

WSU: No. Socio-economic Objectives (SEO) may better align with Impact and Engagement than do FoRs, however SEOs are not well reflected within university structures, making data collection, use and application difficult.

Selectiveness of EI

- Q4.13 Should there be more or fewer units of assessment per university? *More units of assessment; The same number as in EI 2018; Fewer units of assessment.*

- a. How many and why? *Please explain your answer.*

WSU:

The EI methodology needs to be changed so that it is more comprehensive (please see response to Q 4.28 a)

El low-volume threshold

- Q4.14 The EI low-volume threshold should continue to be based on the number of research outputs submitted for ERA. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree.*

WSU: Agree

- a. If you disagree, how should eligibility for assessment in EI be determined?
Please explain your answer.

WSU:

- Q4.15 The low volume threshold is set at the appropriate level. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

Engagement indicators

- Q4.16 Overall, the engagement indicator suite for the assessment of research engagement is suitable. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

The previous measures are no longer applicable with the changes in HERDC income reporting and the method of determining Category 1 funders.

The only HERDC Income sub categories that are clearly end user are:

- 1.4 Rural R&D
- 2.1 Commonwealth (own purpose)
- 2.3 State/Territory/Local (own purpose)
- 3.1 Australian for-profit organisations
- 3.2 Australian not-for profit organisations
- 3.4 International for-profit organisations
- 3.5 International not-for profit organisations
- 3.7 International government (own purpose)
- 4.2 R&D income received from CRCs derived from private industry participants of CRCs

For the purposes of this document this group is referred to as “Collaborative sub categories”.

Below are details of metrics that could be readily gathered or provided as indicators of research engagement.

- HERDC income from Collaborative sub categories per FTE.
- Quantity of collaborative income
 - HERDC income from Collaborative sub categories.
- Percentage of collaborative income
 - HERDC income from Collaborative sub categories / Total HERDC income
- Collaborative sub categories In kind contribution as percentage of total Collaborative sub categories HERDC Income
- Co-authorship with non-academic partners as a proportion of total outputs
- Percent of grants with an Industry Investigator.
- Industry funded scholarships for HDR Students.
- End user Co-supervision of HDR students

Q4.17 The cash support from research end-users indicator using HERDC data is appropriate for the assessment of research engagement? *Strongly agree; agree; neither agree nor disagree; disagree; strongly disagree. Please explain your answer.*

WSU: It is to be noted that despite significant engagement efforts, support from end users could be mainly in-kind.

Q4.18 The research commercialisation income is appropriate for the assessment of research engagement. *Strongly agree; agree; neither agree nor disagree; disagree; strongly disagree. Please explain your answer*

WSU: Strongly disagree

Q4.19 Are there additional metrics that would be appropriate across many or all disciplines? *Yes/No. If you answered 'Yes', please outline the metrics. If you answered 'No', please explain your answer.*

WSU:

Q4.20 Are there alternative metrics that would be appropriate across many or all disciplines? *Yes/No. Please specify the metrics.*

WSU:

Q4.21 Should any of the current Engagement metrics be redesigned? *Yes/No. If you answered 'Yes', which ones and how?*

WSU:

Q4.22 The co-supervision of HDR students should be made an engagement indicator in future rounds of EI. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Strongly disagree

Q4.23 In your opinion, are any of the ERA applied measures appropriate indicators of research engagement in EI?

a. Patents. *Yes/No. Please explain your answer.*

WSU:

b. Research commercialisation income. *Yes/No. Please explain your answer.*

WSU:

c. Registered designs. *Yes/No. Please explain your answer.*

WSU:

d. Plant breeder's rights. *Yes/No. Please explain your answer.*

WSU:

e. NHMRC endorsed guidelines. *Yes/No. Please explain your answer.*

WSU:

Engagement narrative

Q4.24 The narrative approach is suitable for describing and assessing research engagement with end-users. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree. Given the range of engagement indicators that can be used to quantify engagement a narrative approach is really not required.

a. If you disagree, what alternative approach could be used to replace the narrative? *Please explain your answer. If you are suggesting indicators, please be specific.*

WSU: While end user Co-supervision of HDR students could be a reasonable measure, it is problematic to reliably record and report on this information. External supervisors may move in and out of Academic appointments without our knowledge and it is unlikely that they would advise us of each change of employment. In most cases, the only contact point with them is via a generic email address, e.g. gmail.

Q4.25 One engagement submission per broad discipline is sufficient for capturing the research engagement within that discipline. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

Q4.26 The engagement narrative needs to be longer. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

Q4.27 Additional evidence is needed within the narrative. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

a. If you agreed, what evidence should be provided? *Please describe.*

WSU:

Impact narrative

Q4.28 The narrative approach is suitable for describing and assessing impact. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

We recommend the retention of the case study approach to the Engagement and Impact (E&I) assessment exercise.

- a. If you disagree, what alternative approach could be used to replace the narrative? *Please explain your answer. If you are suggesting indicators, please be specific.*

WSU:

Q4.29 One impact study per broad discipline is sufficient for capturing the research impact within that discipline. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

Q4.30 The impact narrative needs to be longer. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

Brief statements of impacts realised with available evidence should suffice.

Q4.31 There is a need for additional evidence to be provided within the narrative. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

- a. If yes, what evidence should be provided? *Please explain your answer.*

WSU:

The 2018 impact assessment did not provide an opportunity for researchers to attach additional evidence to corroborate their impact claims. The ability to attach testimonials or provide web links would be useful.

Q4.32 In your opinion, are there quantitative indicators that could be used to measure the impact of research outside of academia? *Yes/No. Please explain your answer.*

WSU: Yes

- a. If you answered 'yes' to the previous question, please name and describe the quantitative indicator/s, and the disciplines for which they are relevant. *Please list and describe.*

WSU:

- Measures of change (increase/decrease)
- Rates and percentages
- Time periods
- Units of change (metric/imperial)
- Currency

However, there may be exceptions to use of these indicators for certain disciplines.

The previous measures are no longer applicable with the changes in HERDC income reporting and the method of determining Category 1 funders.

The only HERDC Income sub categories that are clearly end user are:

- 1.4 Rural R&D
- 2.1 Commonwealth (own purpose)
- 2.3 State/Territory/Local (own purpose)
- 3.1 Australian for-profit organisations
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 - $\text{HERDC income from Collaborative sub categories} / \text{Total HERDC income}$
- Collaborative sub categories In kind contribution as percentage of total Collaborative sub categories HERDC Income
- Co-authorship with non-academic partners as a proportion of total outputs
- Percent of grants with an Industry Investigator.
- Industry funded scholarships for HDR Students.
- End user Co-supervision of HDR students

Approach to impact Narrative

Q4.33 The narrative approach is suitable for describing and assessing approach to impact. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Agree

However, a separate section and assessment of 'approaches to impact' is not required

- a. If you disagree, what alternative approach could be used to replace the narrative? *Please explain your answer. If you are suggesting indicators, please be specific.*

WSU:

- Q4.34 One approach to impact narrative per broad discipline is sufficient for capturing the activities within that discipline. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

- Q4.35 The approach to impact narrative needs to be longer. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

- Q4.36 There is a need for additional evidence to be provided. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

- Q4.37 Would there be benefit in combining engagement and approach to impact? Yes/No. *Please explain your answer.*

WSU: Yes

El rating scales

- Q4.38 The engagement rating scale is suitable for assessing research engagement. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

Rating scales should align with ERA rating scales.

- Q4.39 The descriptors for the engagement rating scale are suitable. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

- Q4.40 The impact rating scale is suitable for assessing impact. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*
WSU: Disagree
Rating scales should align with ERA rating scales.
- Q4.41 The descriptors for the impact rating scale are suitable. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*
WSU: Disagree
- Q4.42 The approach to impact rating scale is suitable for assessing approach to impact. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*
WSU: Disagree
- Q4.43 The descriptions for the approach to impact rating scale are suitable. *Strongly agree; Agree; Neither agree or disagree; Disagree; Strongly disagree. Please explain your answer.*
WSU: Disagree

El interdisciplinary research

- Q4.44 Should EI continue to include an interdisciplinary impact study in addition to the two-digit Fields of Research impact studies? *Yes/No. Please explain your answer.*
WSU: Yes

El and Aboriginal and Torres Strait Islander research

- Q4.45 Should the EI low-volume threshold be applied to the unit of assessment for Aboriginal and Torres Strait Islander research in EI 2024 with the option to opt in if threshold is not met? *Yes/No. Please explain your answer.*
WSU: Yes
- Q4.46 Should the unit of assessment for Aboriginal and Torres Strait Islander research include engagement in EI 2024? *Yes/No. Please explain your answer.*
WSU: Yes

Section 5—Overarching Issues Common to both ERA and EI

Frequency of ERA and EI

Q5.1 How often should ERA occur? *Every three years; Every five years; Other, please specify. Please explain your answer.*

WSU: Every 5 years

ERA requires a significant workload and is an especially burdensome process. It would therefore be better if it occurred less frequently.

While ERA has played a useful role at the start of the process, ERA 2010, ERA 2012 & ERA 2015, it is perhaps now less necessary and a 5 year cycle would be more appropriate.

If the reference period were also changed to 5 years for publications, we could have assessments with no overlaps in the reference period, which would make sense.

Also, annual global rankings perform similar purpose as ERA and serve the sector well.

Q5.2 What impact would a longer assessment cycle (i.e. greater than three years) have on the value of ERA results, particularly in the intervening years? *Please explain your answer.*

WSU:

It provides little opportunity for a University to react and respond to a low rating.

Q5.3 How often should the EI assessment occur? *Every three years; Every five years; Other, please specify. Please explain your answer.*

WSU: If ERA and EI are held at the same time, it is possible that impact may be in its latent or embryonic stage. Therefore, it is quite reasonable to have a less frequent review of EI than ERA.

Q5.4 What impact would a longer assessment cycle (i.e. greater than three years) have on the value of EI results, particularly in the intervening years? *Please explain your answer.*

WSU:

Impact is a non-linear process and takes years to manifest.

Streamlining and simplifying ERA and EI

Q5.5 ERA and EI should be combined into the one assessment. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

If assessments were combined, this would increase the administrative burden on Academics and the University in general at the same time. It would be better to spread the workload.

ERA and EI should not be combined into one assessment. Doing so may devalue the EI exercise and ratings. The assessments should occur in close time frames to each other so that data can be used for both exercises.

a. What would be the advantages and/or disadvantages. *Please explain your answer.*

WSU:

Although the aspects and activities of ERA and EI differ, there are overlaps and pressure on both Research offices and the Academic community.

Q5.6 Are there other ways to streamline the processes to reduce the cost to universities of participating in ERA and EI? *Yes/No. Please explain your answer.*

WSU: Yes

Integrate with HERDC and HEIMS annual submissions

Change peer review selection percentage

- It may be possible to change the percentage of publications required for peer review selection lower than the current 30%. If this were reduced to, say 20%, significantly less work would be required for Universities.

The FoRs that are subject to citation analysis could be expanded.

The cost of the peer review process is significant. ERA is a major project at Universities, absorbing many resources for many months. It would be better that our Academics perform research, rather than wrangle with administrative activities attempting to get a good rating.

There are several FoRs that are currently subject to peer review that would be suitable to be assessed using citation analysis. This includes FoRs within: 13 – Education, 14 – Economics, 15 - Commerce, Management, Tourism and Services & 16 - Studies in Human Society. These FoRs had at least 61% of their publications as journal articles in ERA 2018, and the average cites per paper are similar to the citation disciplines.

There are FoRs that would benefit from a hybrid assessment model. FoRs within 08 - Information and Computing Sciences & 12 - Built Environment and Design both had 39% of publications as journal articles and the average cites per paper are similar to the citation disciplines. Citation data could be provided for journal articles and 30% selection could be made for other publication types.

Q5.7 In your view, what data sources could ERA utilise? *Please explain your answer.*

WSU:

HEIMS staff data collection

HERDC Income collection (amended to add FoRs)

Citation provider - Dimensions data with FoR assignment

Citation provider - Scopus data with FoR assignment

Citation provider - Clarivate

Potentially we do not need to restrict ourselves to only 1 data provider. FoR assignments from multiple sources could be used to confirm each other or identify unusual assignments by Universities.

Cite counts and benchmarks from each provider can confirm quality.

Q5.8 In your view, what are the most time-consuming elements of an ERA submission? *Please describe.*

WSU:

ERA is a major project at Universities, absorbing many resources for many months.

The two most significant aspects of ERA are:

- Ensuring FoR assignments are provided by Academics.
- Academics selecting 30% of items for Peer Review.

It would be better that our Academics perform research, rather than wrangle with administrative activities attempting to get a good rating.

There are several FoRs that are currently subject to peer review that would be suitable to be assessed using citation analysis.

There are some FoRs that would benefit from a hybrid assessment model. Citation data could be provided for journal articles and 30% selection could be made for other publication types.

One element is the decision around whether an output meets the definition of research – although this is straightforward much of the time, the guidelines could be strengthened to reduce ambiguity for outputs which have a research component but don't necessarily reflect the usual structure such as extended editorials, essays, and many of the creative works.

Assigning FoR Codes is time consuming and not necessarily well understood by researchers – if codes could be assigned using technology such as AI analysis this would ensure consistency across universities and also reduce the workload for individual institutions.

a. Are there efficiencies that could be introduced? *Yes/No. Please describe.*

WSU:

Making more disciplines subject to citation analysis would reduce the number of items required to be nominated for peer review.

Lower peer review selection percentage.

Q5.9 In your view what are the most time-consuming elements of an EI submission? *Please describe.*

WSU:

Although the EI submission overall was time and resource intensive, evidencing impact claims, articulating the impact narrative and demonstrating causality was very time consuming.

For the engagement narrative, since the assessment was across the entire FoR, determining what the narrative should include from a wide range of robust data and ensuring that the narrative was cohesive took a significant amount of time.

a. Are there efficiencies that could be introduced? *Yes/No. Please describe.*

WSU: Yes

The intention of the EI assessment should not be to just measure returns on research investment but to drive behavioural changes amongst researchers, to produce impactful research. However, to instigate these changes the assessment process should also incentivise researchers for their engagement efforts and for delivering impactful research.

Utilising technological advances and pre-existing data sources

Q5.10 ORCID iDs should be mandatory for ERA. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

ORCIDs are not yet a reliable data source. Some researchers have several.

a. What are the advantages and/or disadvantages? *Please explain your answer.*

WSU:

ORCIDs are not yet a reliable data source. Some researchers have several.

Q5.11 The automatic harvesting of output data using ORCID iDs would streamline a university's submission process. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

This Depends on the source.

If from ORCID itself that is problematic as people can add anything to their profile.

If from a citation provider, Books, chapters, NTRs and research reports would not be gathered adequately.

Central data sources could be used but they would also need to be manually checked to ensure accuracy. This effort would significantly negate any benefit.

Universities already diligently collect and audit publication details which are used for internal purposes, e.g. Staff profiles, promotion applications, grant applications, workload assessments. Harvesting publications from citation

providers would introduce items that had not been audited by Universities against guidelines, so would result in the inclusion of items that were ineligible.

There would be no benefit in harvesting data from external sources. Some details could be validated however.

a. What are the advantages and/or disadvantages? *Please explain your answer*

WSU:

This Depends on the source.

If from ORCID itself that is problematic as people can add anything to their profile.

If from a citation provider, Books, chapters, NTROs and research reports would not be gathered adequately.

Q5.12 DOIs should be mandatory for ERA. *Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

WSU: Disagree

This is a good idea in theory but is not fair or feasible yet because there are many publishers who do not support DOIs and many others who use DOIs but do not provide adequate or accurate metadata with these.

NTROs would be problematic.

a. What are the advantages or disadvantages? *Please explain your answer.*

WSU:

Q5.13 Are there new ways to collect data to reduce the cost and burden to universities of participating in ERA and EI whilst maintaining the robustness of the ERA and EI process? *Yes/No. Please explain your answer.*

WSU: Yes

Use the HEIMS staff data collection. FoRs per person can be calculated/determined from the publication data.

Use the HERDC Income collection (amended to add FoRs)

Harvest from Citation providers

- Dimensions data with FoR assignment
- Scopus data with FoR assignment
- Clarivate

Potentially we do not need to restrict ourselves to only 1 data provider. FoR assignments from multiple sources could be used to confirm each other or identify unusual assignments by Universities.

Cite counts and benchmarks from each provider can confirm quality.

- a. What are the advantages and/or disadvantages? *Please explain your answer.*

WSU:

Minimised effort and duplication of activities.

The staff and income data are already provided annually. It would be a small additional effort to add FoRs to the Income collection and align all datasets.

Alternatively, due to the recent restructure of HERDC Income sub-categories and the fact that the Australian Competitive Grants register has been abandoned, some amendments to the ERA XML submission will be required.

The ERA XML field “ACGR Code” is no longer applicable.

Some fields appear superfluous and it is not clear what the benefit is of collecting them. For example: Category 1 “Percentage of Grant within Reference Period”.

HERDC Income is subject to external audit and is a robust dataset. Currently there are variations when ERA data is compared to HERDC due to exclusions of negative values. It is reasonable that we report negative income for ERA and the totals exactly match HERDC totals.

The structure of the XML could be significantly simplified so that it is consistent across all categories and directly comparable to HERDC.

Appendix E—Acronyms

Acronym	Full Title
AIMS	Australian Institute of Medical Scientists
ANSTO	Australian Nuclear Science and Technology Organisation
ANZSRC	Australian and New Zealand Standards Research Classification
ARC	Australian Research Council
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DESE	Department of Education, Skills and Employment
DOI	Digital Object Identifier
DST	Defence Science and Technology (formerly DSTO)
EI	Engagement and Impact Assessment
ERA	Excellence in Research for Australia
FoR	Fields of Research
FTE	Full Time Equivalent
HDR	Higher Degree by Research
HERDC	Higher Education Research Data Collection
HoR	The House of Representatives
MBIE	Ministry of Business, Innovation and Employment
NHMRC	National Health and Medical Research Council
NISA	National Science and Innovation Agenda
NMI	National Measurement Institute
RBG	Research Block Grant
REC	Research Evaluation Committee
REF	Research Excellence Framework UK
SEO	Socio-Economic Objective Code
SRE	Sustainable Research Excellence funding
TEQSA	Tertiary Education Quality Standards Agency
ToA	Type of Activity