



Research Evaluation

ARL LIBRARY ASSESSMENT CONFERENCE

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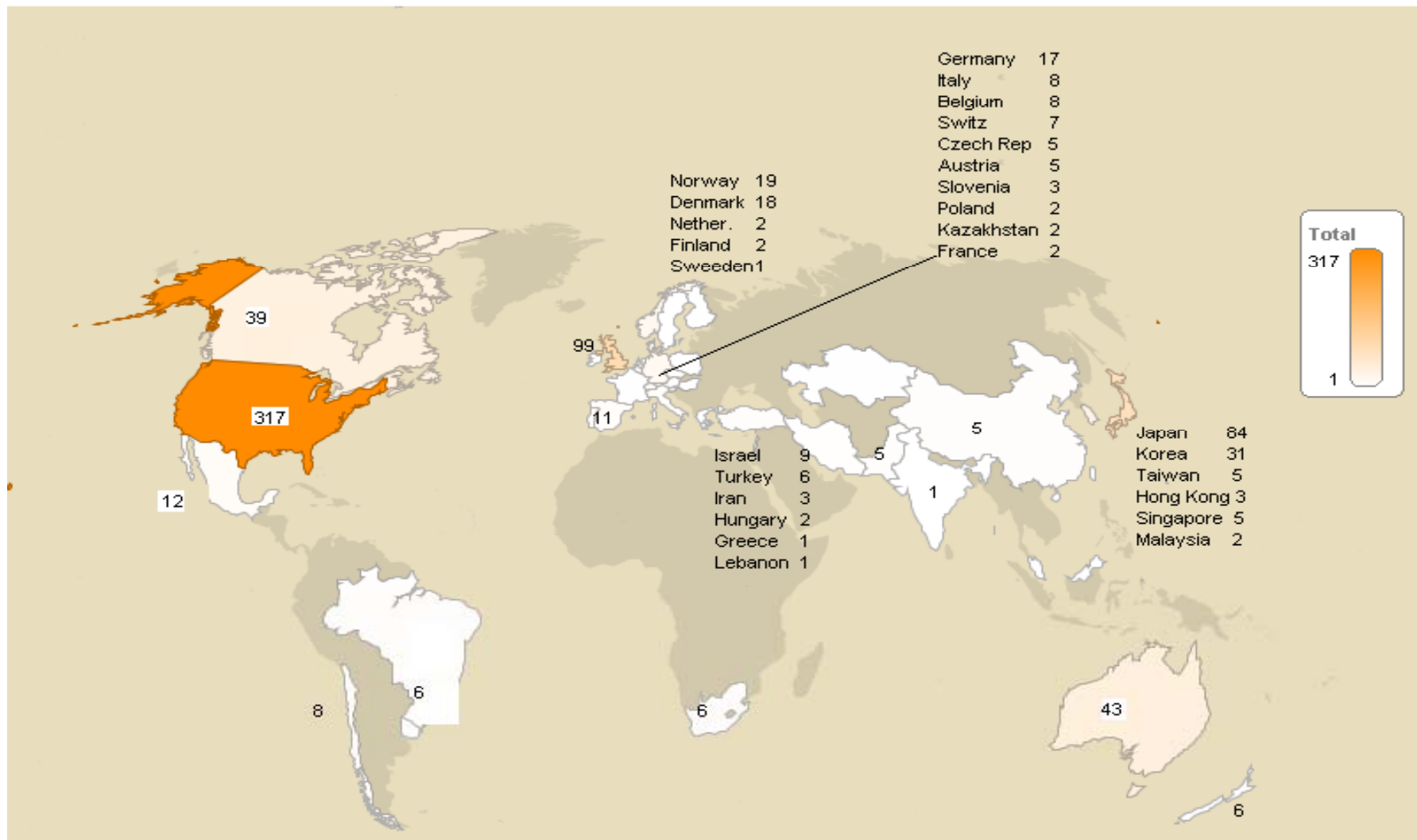


THOMSON REUTERS

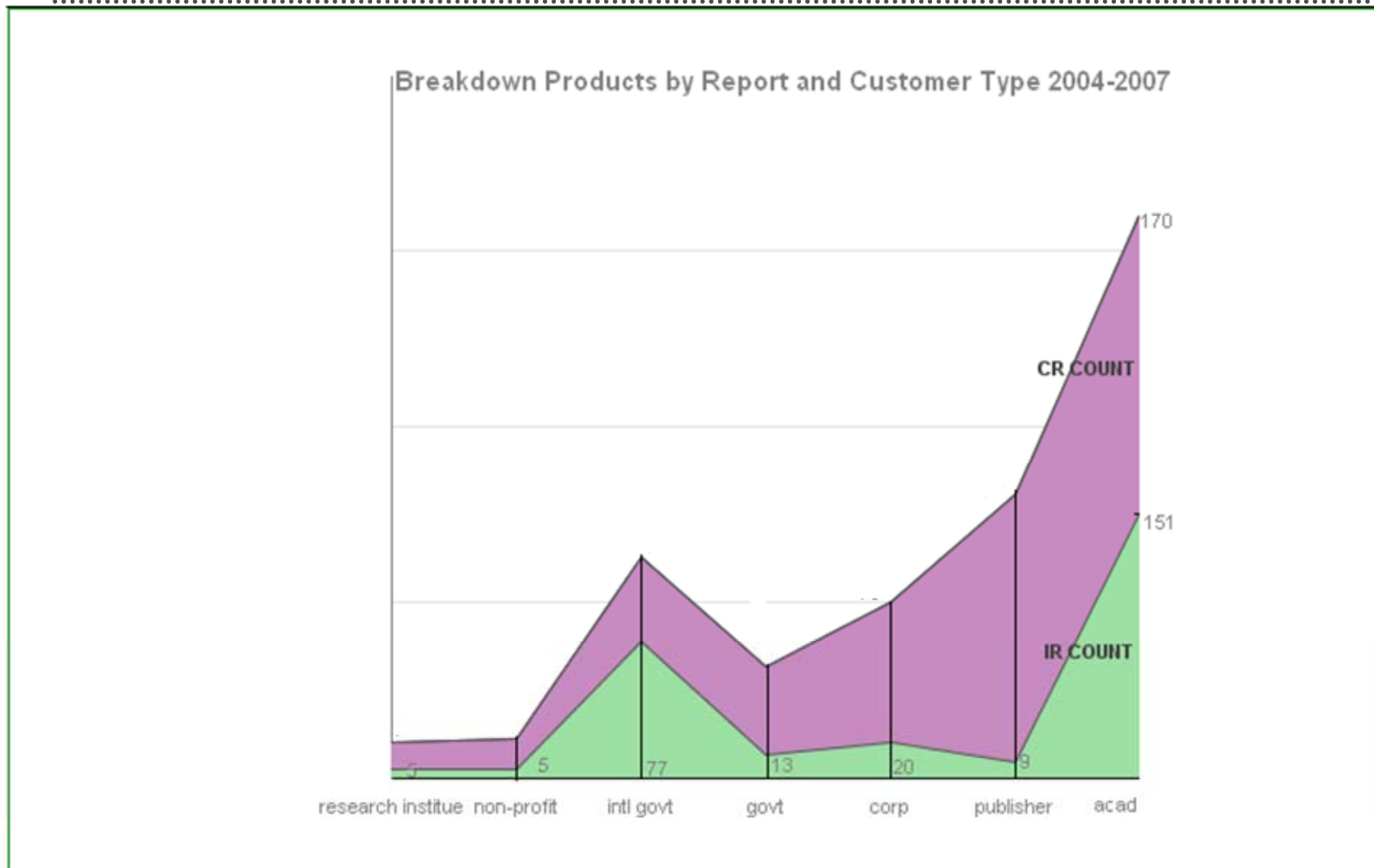
AGENDA

- Research Background
- Drivers
- Stakeholders
- Findings
- Library Support in Institutional Research Evaluation

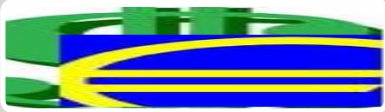
A WORLD VIEW



EVALUATION TRENDS



Drivers for increased evaluation and assessment



Funding Pressures



Efforts at Objective Approaches to Promotion and Tenure



Reputation Management and Demonstration of Achievement



Big Science, Large Scale Medical Research Projects

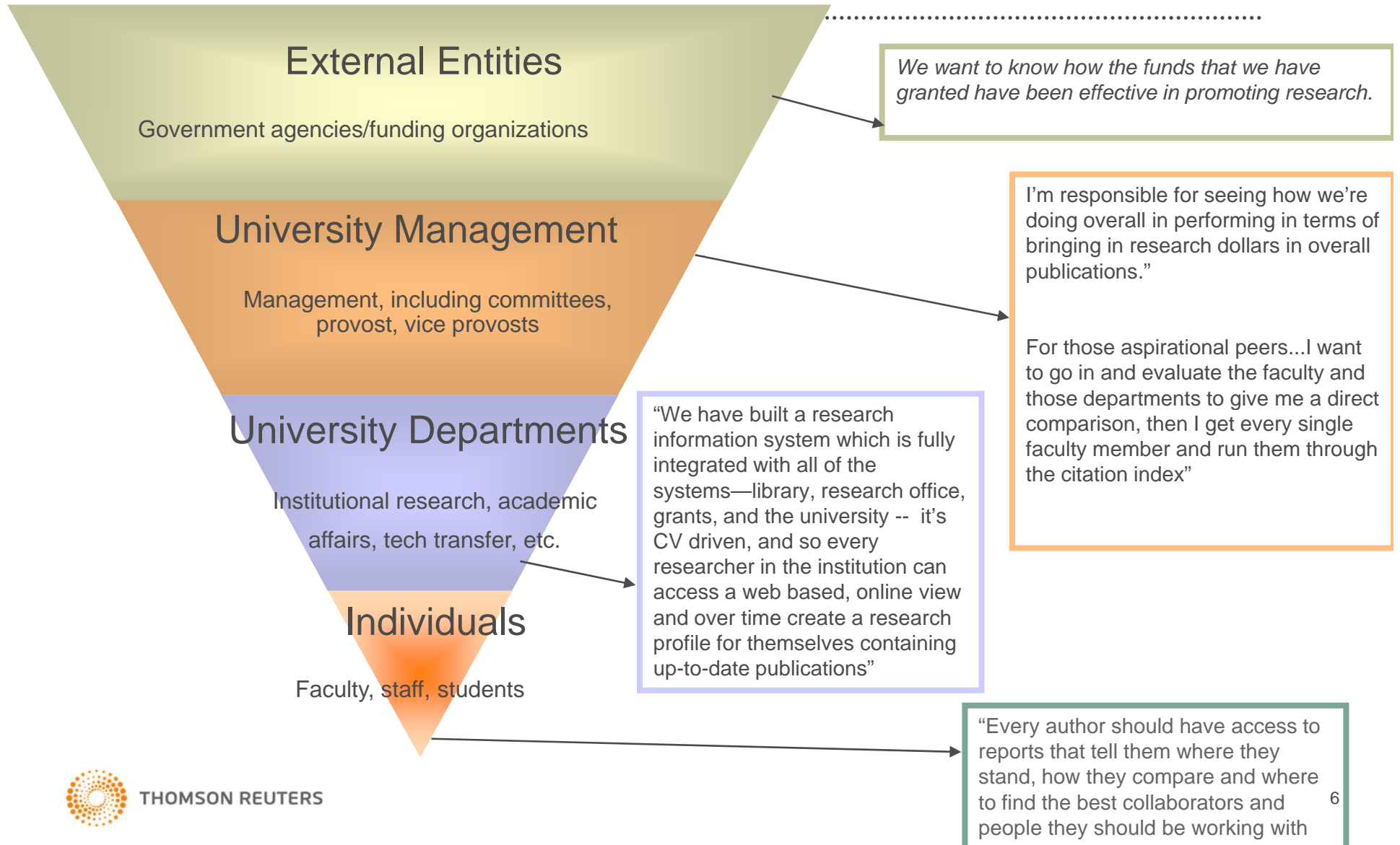


Global Competition in the Sciences



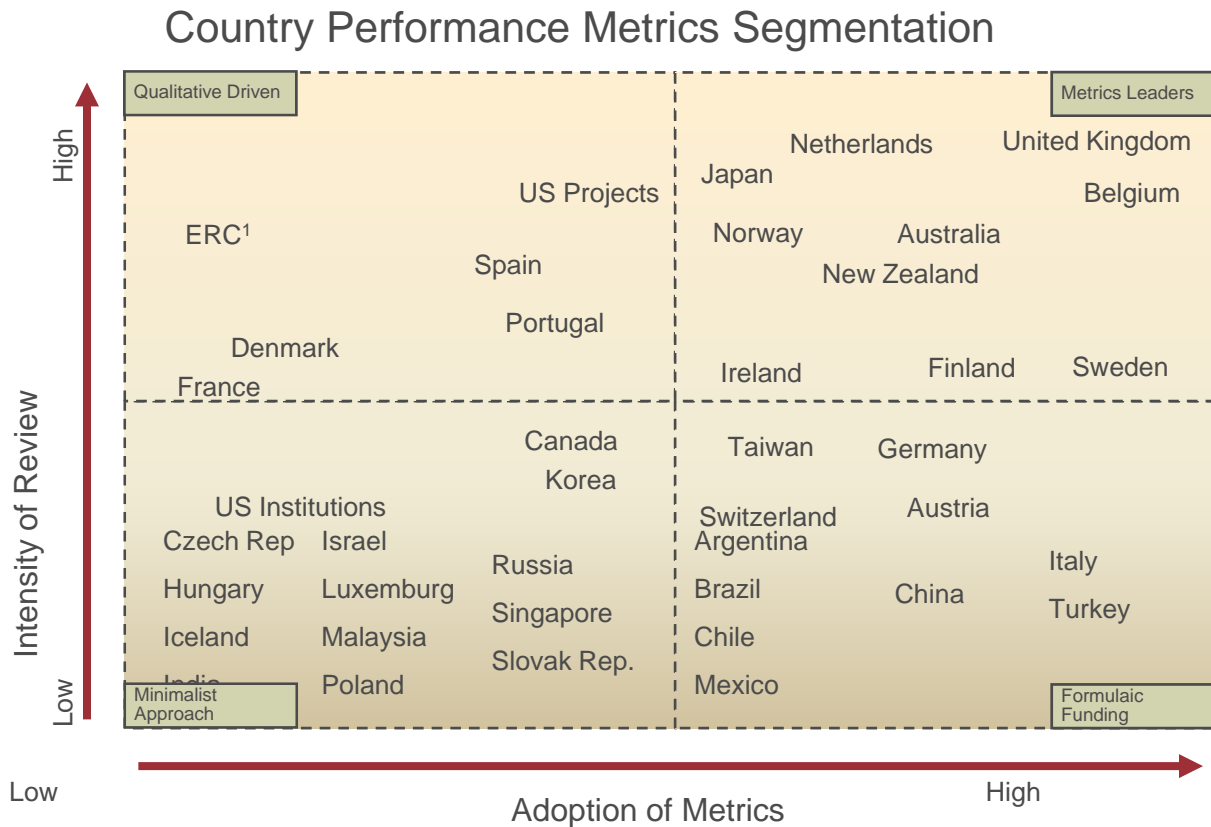
Changing Nature of Scholarly Journal Publishing

Who are the stakeholders in research evaluation



Country segmentation: approaches to metrics

Where countries fall in the segmentation will drive their attentiveness to benchmarks and methodology



Observations

- Most countries still regard their systems for evaluating research as somewhat experimental
- The general trend among countries is movement toward the upper-right quadrant
- UK /Australia may establish global standard, and will be moving toward an even more PM centric systems in 2008
- Project funding in US is becoming increasingly metric dependent

¹ European Research Council

Institutional Measurement

Research Performance Measures - are currently the most reliant on external information sources and benchmarks

Key Areas

	Operational	Economic	Academic	Research
Purpose	<ul style="list-style-type: none"> Day to day operational decisions 	<ul style="list-style-type: none"> Ongoing institutional funding 	<ul style="list-style-type: none"> Student recruiting and alumni donations 	<ul style="list-style-type: none"> Funding distribution, faculty recruiting and evaluation
Examples	<ul style="list-style-type: none"> Faculty salaries Real estate usage/expense Position openings 	<ul style="list-style-type: none"> Revenue/expenditures Employment Economic impact Construction 	<ul style="list-style-type: none"> Enrollment Programs available Student performance Selectivity/rankings 	<ul style="list-style-type: none"> Research funding Publications/citations Patents/licenses Awards/honors
Audience	<ul style="list-style-type: none"> Provost Dept. heads 	<ul style="list-style-type: none"> Provost Local/State/Ministry Government 	<ul style="list-style-type: none"> Faculty Size Provost/Dept Students/Alumni 	<ul style="list-style-type: none"> Provost/dept/faculty Funding institutions
Source	<ul style="list-style-type: none"> Internal 	<ul style="list-style-type: none"> Internal Economic impact data 	<ul style="list-style-type: none"> Internal ERP external 	<ul style="list-style-type: none"> Research office I/government Citation dbs library

PROJECT SCOPE

TYPES OF RESEARCH ASSESSMENTS

Measurement and Assessment Projects for Various Purposes

Key Indicators: Overall output measures and institutional benchmarks

Program Reviews and Assessments

Researcher Promotion and Tenure Reviews

Growth and Strategic Direction

Big Science / Multidisciplinary Collaborative Research Projects

National Level Assessment Programs

KEY MEASURES

What gets measured?

Grant funding

Faculty salaries

Research expenditures

Rankings

Patents

Research output

Graduation rates

Private gifts

Enrollment Growth

Faculty Reputation

Faculty Turnover

Teaching Performance

Accreditation Evaluation

Endowment Growth

Faculty and Student Diversity

Internal Funding Sources

Peer Comparisons

Student Performance/ Retentions

WHY MEASURE?

LOFTY GOALS

“There are two reasons that most universities look at something as important . . . it allows us to operate . . . it allows us to improve our image.”

“The ultimate aim of the performance appraisal is to maintain quality and continuously improve quality.”

“Fix what is wrong, improve what is good, and extend what is perfect.”

“Our ultimate goal is excellence in teaching and research.”

WHY MEASURE?

“You know, 20 years ago a faculty member was assigned an office and a lab, and he pretty much had to die before his lab ever was taken away from him. Now they’re given an office and they’re given access to laboratory space, but there’s no vested ownership of that space. Whether they can use it or not truly depends on their access to funding, and departments are moved around and reshuffled and reorganized based a lot on the research goals that the school or the individual department, centers of institute set, and those processes are conducted basically on a three-year review cycle.”

CHALLENGES

“ . . . there’s no question that we’re all becoming more data intensive in how we make these decisions . . . ”

““Depending on the evaluation, the university may or may not invest additional resources into the program.”

“ . . . the way we have to do it now is kind of awkward ... ”

“As funding becomes tighter, it becomes more and more important to be able to say in an organized manner, ‘we have spent our funds well.’”

CHALLENGES

DESPITE GOALS AND MANY DISPARATE EFFORTS

Sourcing and Compiling Data

Coordination across types of assessments: duplicative efforts

Standard Measures Across Institutions, Countries: need understanding of organizational attributes and structures

Confidence in Methodologies and Approaches: the right tools for the job

Confidence, Training in Systems and Tools

Want Central Databases and Up to date systems

HOW IS EVALUATION CONDUCTED?

Scientometrics

- Citations
- Output
- Use and User Logging

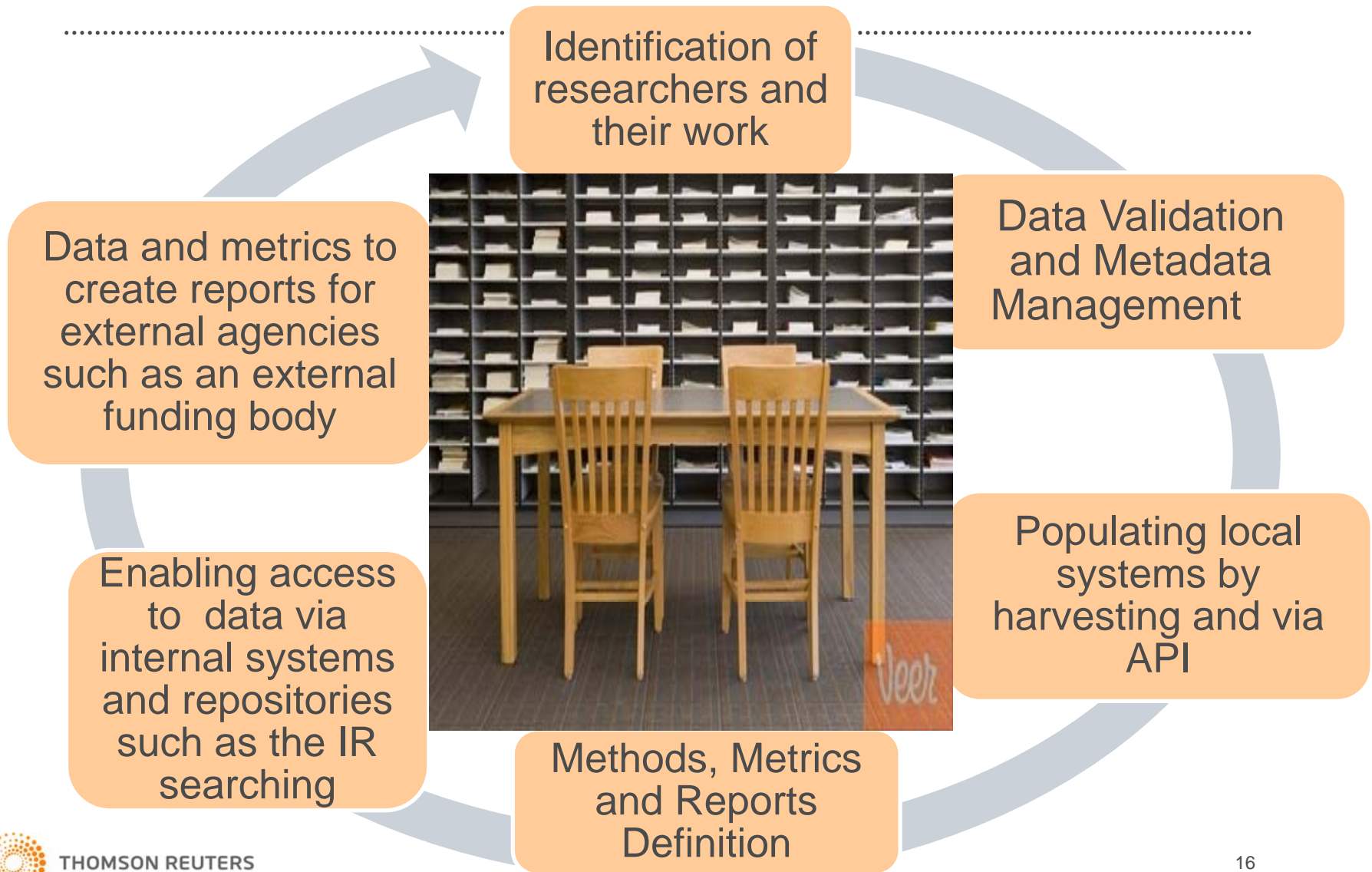
Peer Review

- Formal
- Informal

Surveys

- Incoming
- Outgoing

Is there an Institutional Research Evaluation Workflow



ROLES FOR THE LIBRARY IN RESEARCH EVALUATION

- Tying research evaluation activities to core library services – collections (journals) and services that are acquired, used, cited, etc
- Application through enhanced, integrated, flexible services, collections, and support systems
- Increased role for Institutional Repositories
- Coordination among collection and use of data
- Understanding of integrated systems development
- Equipped at researcher level service delivery
- Application across multi level campuses or collaboration institutions
- Policies, Best Practices,
- Technology Support for interactivity and data supplies

What to measure? When?

- Total Papers / Total Citations
- Citation Impact (cites per paper)
- Percent Cited
- **Impact Relative to Field**
- Percentile Rank in Field
- **Collaboration Indicators**
- Expected Citation Count
- **Ratio of Citations to Expected citation count**
- **Expected Citation Rate for Category**
- Mean / Median Citation
- H Index
- Citation Frequency Distribution
- Time Series Trends
- Disciplinarity



Authors

Institutions

Departments

Nations

Journals

Fields / Topics

What to measure? When?

- Downloads
- Source of Downloads
- Items in Alerts, Comments
- Presence in the network



Authors

Institutions

Departments

Nations

Journals

Fields / Topics

Resources

- Beyond the RAE 2008: Bibliometrics, League Tables and the REF-- A one day conference 30th April 2008

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- <http://scientific.thomson.com/kcl/>
- Research Evaluation Site
 - <http://scientific.thomsonreuters.com/products/solutions/researcheval/>
- White Paper: *Using Bibliometrics: A Guide to Evaluating Research Performance with Citation Data*
- White Paper: *Using Bibliometrics in Evaluating Research*
- Science Watch: Tracking Trends and Performance
 - <http://scientific.thomsonreuters.com/products/sw-hp/>
- Regional and Expanded Journal Content
 - <http://scientific.thomsonreuters.com/free/essays/selectionofmaterial/regionalcontent/>

Ten Rules in Using Publication and Citation Analysis

1. Consider whether available data can address the question.
2. Choose publication types, field definitions, and years of data.
3. Decide on whole or fractional counting.
4. Judge whether data require editing to remove “artifacts”.
5. Compare like with like.
6. Use relative measures, not just absolute counts.
7. Obtain multiple measures.
8. Recognize the skewed nature of citation data.
9. Confirm that the data collected are relevant to the question.
10. Ask whether the results are reasonable.

And, above all, present the results openly and honestly.

Research Evaluation

Thank You!

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