Academic Publishing

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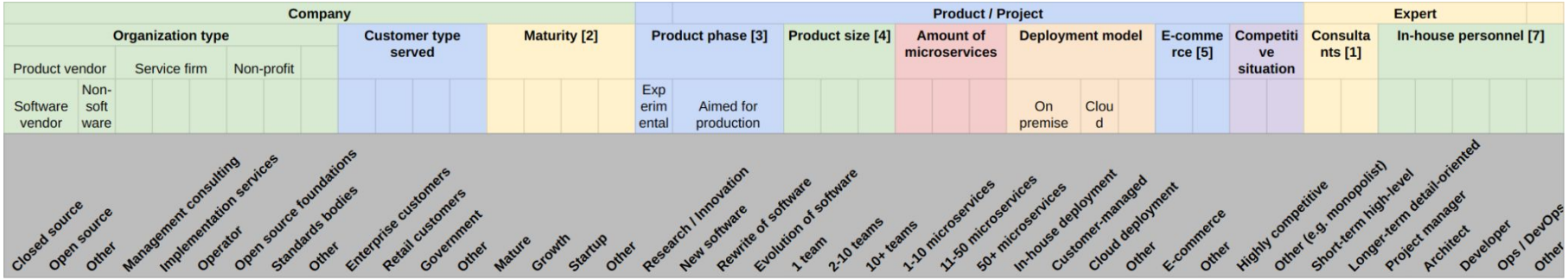
NYT C13

Example Sampling Model for Microservice Integration

Interview study for microservice integration

- Population = people related to microservice integration
- Alternative: Companies employing microservice-based architectures



Agenda

1. Research publications
    a. Journal publications
    b. Conference publications
    c. Other types of publications
2. The peer review process
    a. The journal review process
    b. The conference review process
3. The publishing business

1. Research Publications

Why Publish Research Papers?

I publish, therefore I am

To advance science

To have a career

Status Hierarchy of Publications by Degree of Peer Review

The general status hierarchy

1. Journal articles [1]
2. Conference papers
3. Workshop papers
4. Technical reports

as determined by diligence and depth of peer review

In practice, there are significant quality differences between

- journals and journals
- journals and conferences

[1] In computer science, conference can have equally serious peer review

The Purposes of Academic Communication

The purposes of public written academic communications include

- Documentation and communication of
  - Early (workshop papers)
  - Intermediate (conference papers)
  - Final (journal articles)

  Scientific results
- Exchange of ideas, public conversation
- Documentation of supplementary results (technical reports)

[1] In computer science, conference can have equally serious peer review

Academic Evaluation

Evaluation of researchers, departments, and universities is strongly tied to their research publications

- Researchers get evaluated for promotion (tenure)
- Department rankings influence student choice
- University rankings influence public funding

Publication value is measured by

- Value of the publication venue
  - Common measure: Impact factor
- Citations of publication
  - Common measure: Weighted counts

Also see the SF Declaration of Research Assessment (DORA) [1]

[1] See https://sfdora.org/

Publication Strategy

Quality over quantity

- Slice work as small as you can while you still reach the best possible journal

2. Journal Publications

Publishing in Journals

Journals are

- (Usually) regularly appearing article collections with
  - No specific submission deadline (submit at any time) but
  - Uncertain publication date (when your time has come) and
  - Possibly multiple iterations before a final decision

Organizational Structure of a Journal

Editor-in-chief

Associated editor (a.k.a. area editor)

Reviewer

Software Engineering Journals

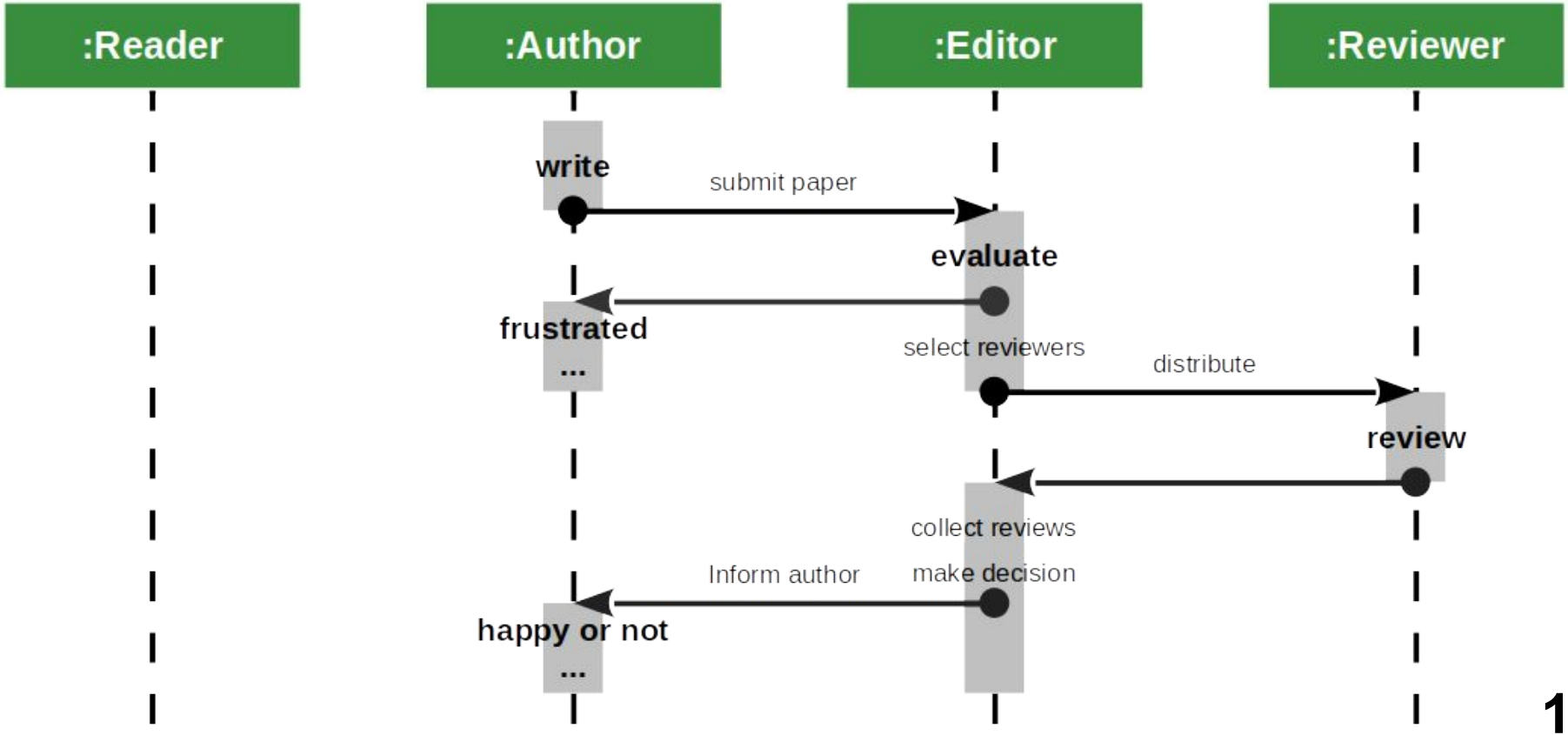
ACM Transactions on Software Engineering Methodology

IEEE Transactions on Software Engineering

Empirical Software Engineering (Springer)

Requirements Engineering (Springer)

Submission and Review Process



Reviewer Response Categories

Accept

Accept with minor revisions

Major revision / revise and resubmit

Reject

Resubmission and Response to Reviewers

When faced with a revise-and-resubmit

- Prepare new manuscript expediently
- Write separate response-to-reviewers

3. Conference Publications

Publishing at Conferences

Conferences are

- Community gathering events where
  - Research work is being presented next to
  - Various other forms of professional communication

Conference papers are

- Research papers accepted for
  - Presentation at the conference and
  - Publication in the conference proceedings

Conference proceedings are

- Research paper compendia associated with the event and
  - Typically are published once a year
  - Have a single submission deadline and a
  - Fixed publication date (the conference start)

Organizational Structure of a Conference

Conference committee

Program committee

Program committee chair

Program committee members (reviewers)

Software Engineering Conferences

ACM Foundations of Software Engineering (FSE)

European Software Engineering Conference (ESEC)

IEEE International Conference on Software Engineering (ICSE)

Reviewer Response Categories

Accept and champion

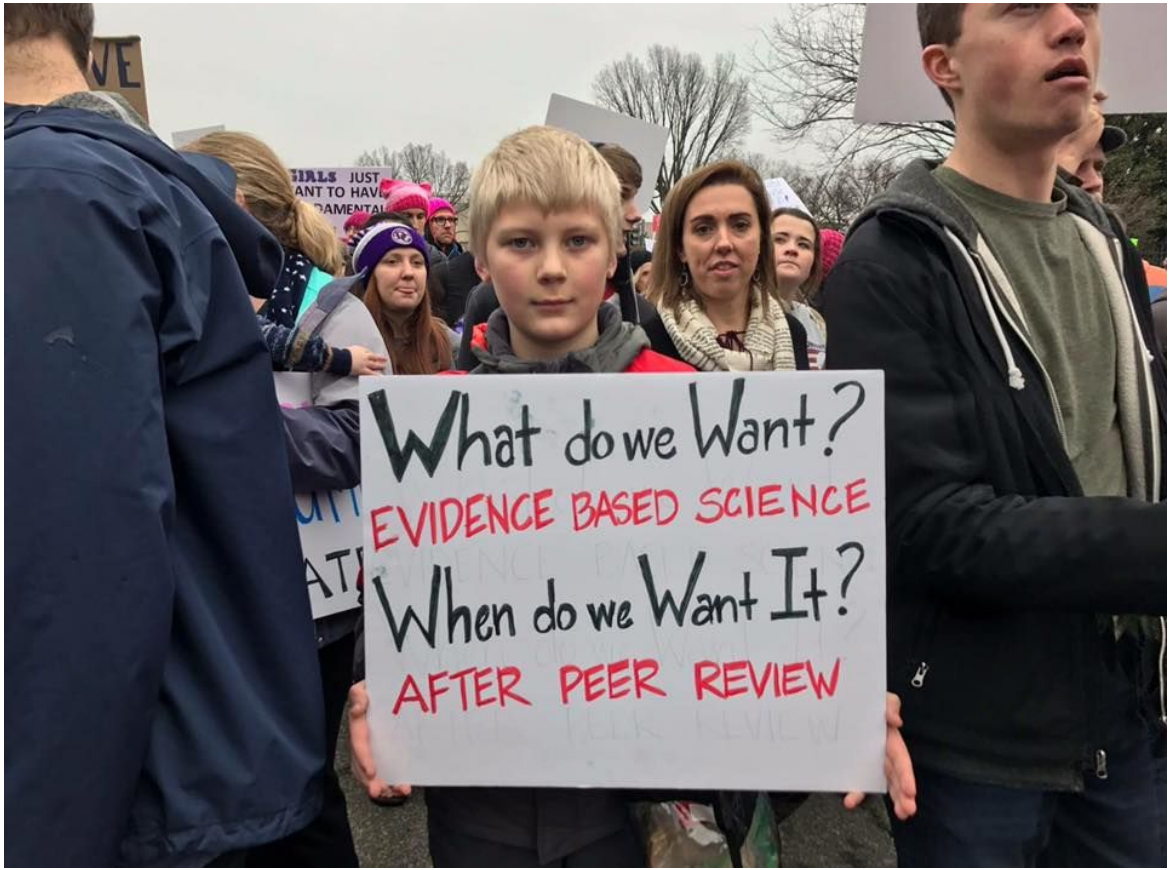
Accept but do not champion

Reject but do not detract

Reject and detract

4. The Peer Review Process

The Hallmark of Science



Peer Review

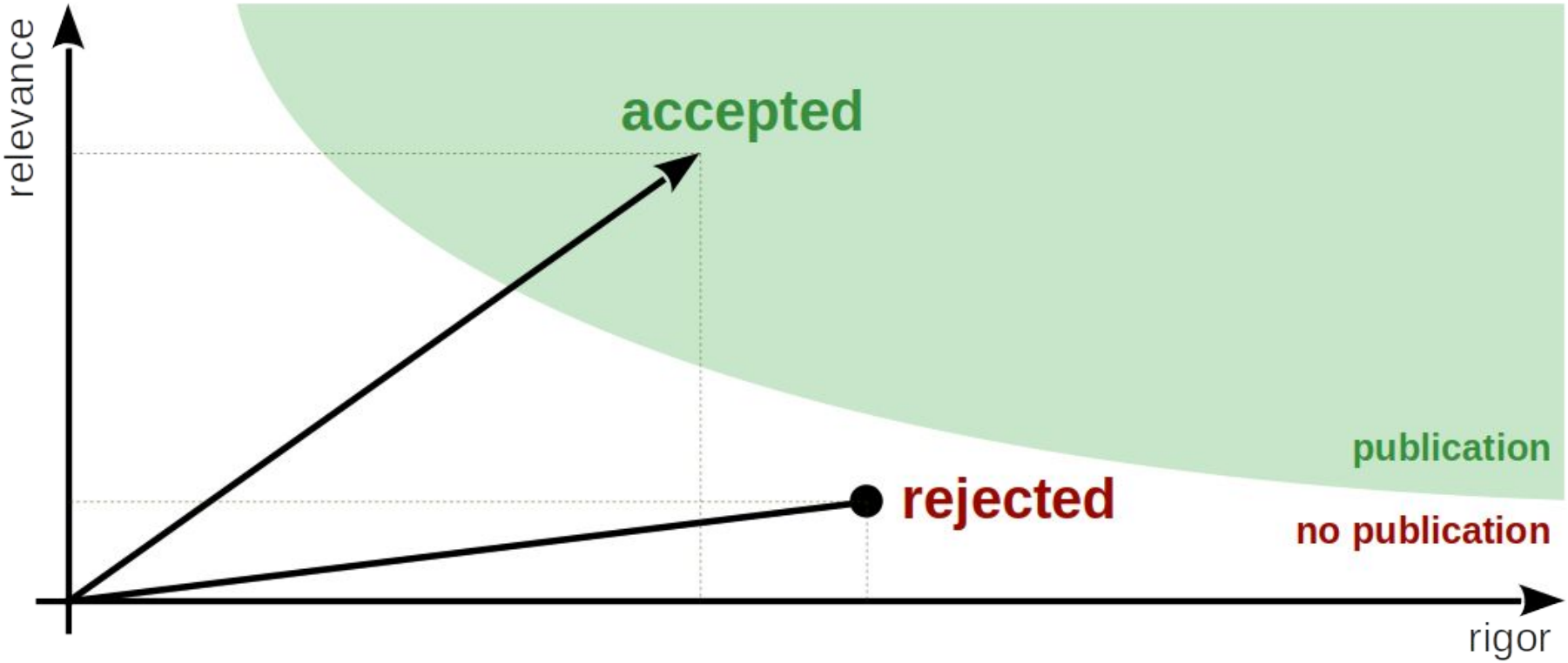
Peer review is

- The process of providing quality assessments about scientific work by
  - Having other scientists provide an analysis and opinion of the work
- Science’s final quality assurance measure

Evidence-based science vs. “eminence-based” science

- Collaborative decision making is typically superior to an individual’s one
- Applies to medicine, aircraft piloting, and science in general

Rigor vs. Relevance (Recap)



Questions on a Reviewer's Mind

Rigor: Is this valid work?

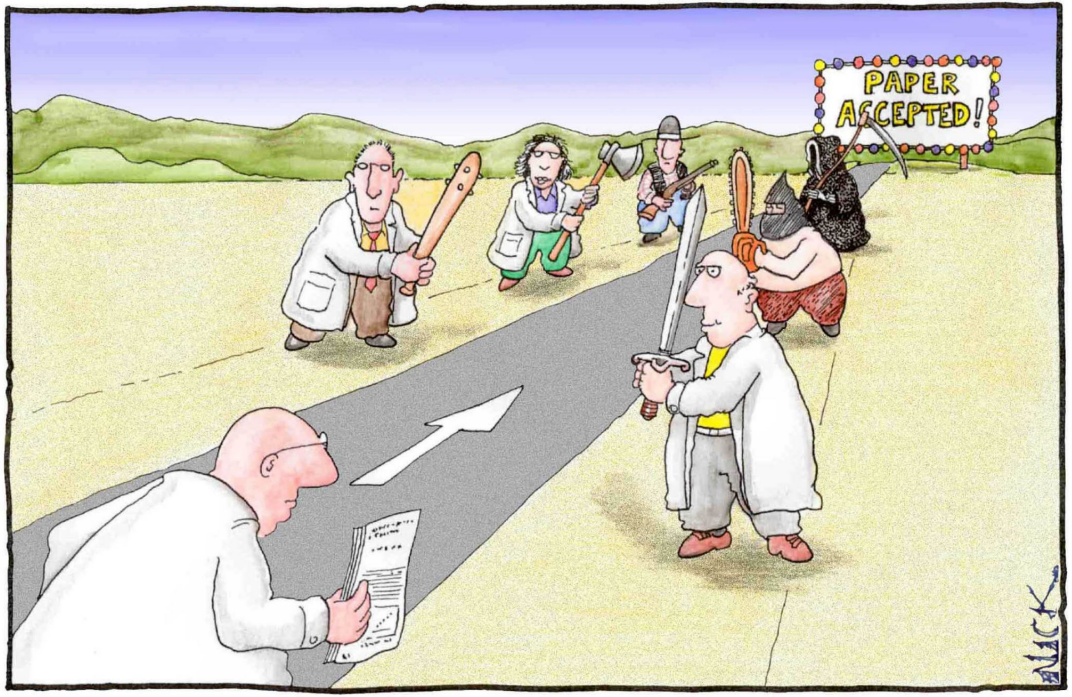
- Is the claimed contribution real?
- Do they know and use methods properly?
- Do they understand the limitations of their research?

Relevance: Does this work matter?

- Is the addressed problem real?
- How significant is their problem?
- How significant is the progress achieved?

Social factors: How do they relate?

Constructive vs. Antagonistic Reviews



Most scientists regarded the new streamlined peer-review process as ‘quite an improvement.’

Peer Review is Not Perfect

But the best we have

Final Report: Stapel Affair Points to Bigger Problems in Social Psychology

By **Martin Enserink** | Nov. 28, 2012 , 5:55 PM

The blame goes far beyond Diederik Stapel and the three Dutch universities where he worked as a social psychologist. In their **exhaustive final report** about the fraud affair that rocked social psychology last year, three investigative panels today collectively find fault with the field itself. They paint an image of a "sloppy" research culture in which some scientists don't understand the essentials of statistics, journal-selected article reviewers encourage researchers to leave unwelcome data out of their papers, and even the most prestigious journals print results that are obviously too good to be true.

Taming his demons. In a video released today, Stapel said he created "a world in which almost nothing ever went wrong." NOS

5. The Publishing Business

Publishing is a Business

Non-profit academic publishers

- ACM
- IEEE (mostly)

For-profit publishers of academic research

- Elsevier
- Springer

Revenue sources are

- Subscriptions to (digital) libraries
- Individual article access fees

What Publishers Do

The product

- Provide access to archival publications
- In various forms

Their service

- Process coordination
- Editing and publishing

Elsevier is Holding Research Results Hostage [1]

Elsevier News

Update on negotiations with Elsevier

Projekt DEAL and Elsevier are still in contact, although formal negotiations have not yet been resumed (August 22nd, 2019).

Renowned scientists resign from their editorial activities for the publisher Elsevier, thereby supporting the negotiation goals of Project DEAL. A list of these scientists can be found below. Additional information is provided in the HRK press release.

A current list of institutions that have cancelled their contracts with Elsevier can be found here.

[1] See https://www.projekt-deal.de/elsevier-news/

Three Eras of Publishing

First era (mostly gone, but not fully)

- Authors paid publishing fees, subscribers paid subscription fees

Second era (until recently, still going on)

- Authors do not pay anything, subscribers pay subscription fees

New open access era (expanding)

- Authors pay publication fees, access to article is free

The Rise of Predatory Publishers

Intelligent Information Management, 2010, 2, 608-612
doi:10.4236/iim.2010.210069 Published Online October 2010 (http://www.SciRP.org/journal/iim)

Scientific Research

Software Industry Cluster be Disagreement on Theory and Practice

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Abstract

In the view of traditional industry cluster theory, it is easy to copy the software industry cluster pattern, or it is easy to copy another Silicon Valley, due to low reliability of the resources and the guidance factors of locations in software industry. But it is much more difficult to copy a Silicon Valley mode practically than imaginatively and the difficulties of bringing up and supporting high-tech initiatives is more than theoretic anticipation. In China, the software companies have just gathered together geographically and therefore no initiative center can be formed. All these above signify that software industry cluster is distinct from the traditional industry clusters, but the cognition of the reasons of software industry cluster is not clear yet. Furthermore, reasonable explanations of the bewilderment in the economical practice of software industry clus-

Thank you! Any questions?

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