

**Abstract**

Metrics-based research evaluation, with origins in Russia and the Soviet Union, continues to impact scientific publication practices. The prevalence of publication counting prompts researchers to engage in adaptive behaviors, known as the “evaluation game,” with the primary motivation of preserving their standing. A shift in focus from individual achievements to collective societal needs is required, ensuring that the application of metrics aligns with the overarching goals, values, and beliefs of the academic community.

# Research Evaluation: Unraveling the Metrics-Driven Pressures

Emanuel Kulczycki

The profound impact of scientific discovery is felt most acutely during moments of crisis, exemplified by the groundbreaking research that led to the development of COVID-19 vaccines. However, contemporary science has become increasingly publication-driven rather than discovery-focused. The relentless pressure to publish leaves researchers with little time for substantive work, resulting in a surge of publications, particularly among early-career academics. Nobel laureate Peter Higgs contends that he would not meet today’s standards of productivity within academia. Yet, merely increasing the volume of publications is not enough; the true currency in the scientific world is the number of citations.

The [Evaluation Game: How Publication Metrics Shape Scholarly Communication](#) provides a fresh perspective on the genesis and consequences of metrics in academia, as well as suggestions for enhancing research evaluation. By examining both positive and negative implications of research evaluation practices and exploring how these have played out across the globe, the book steers the field toward a more balanced and effective approach to assessing scholarly work.

**Proliferation of Metrics and Research Evaluation Regimes**

As universities become increasingly governed by market-driven logic, the emphasis on accountability and quantifying academic productivity intensifies. The ramifications of these shifts are extensive and are the subject of ongoing debates within the academic community.

Metrics are employed ubiquitously, serving various purposes such as assessing individual researchers, evaluating the success of grant recipients, or measuring and comparing the productivity of academic institutions. Journal impact factor (JIF) remains the preeminent metric. In the United States, 40 percent of research-intensive institutions reference JIF in review, promotion, and tenure documentation. Originally conceived to assess journal readership, JIF has evolved into a comprehensive instrument for evaluating various facets of the research landscape. Additionally, there are top-down, metric-based solutions implemented at the national rather than institutional level. Numerous countries—including Australia, China, Finland, Norway, Poland, and the United Kingdom (with its well-known Research Excellence Framework)—have established national research evaluation systems. These systems empower governments to not only oversee the activities of their science and higher education sectors but also to allocate block grants in many instances.

The scientific community has long been engaged in efforts to counteract misuse and abuse of metrics. Initiatives such as the San Francisco Declaration on Research Assessment (DORA) and the Leiden Manifesto strive to refine the methods by which scientific research output is evaluated, targeting funding agencies, academic institutions, and other stakeholders in the process.

### Untold Histories and Their Consequences

*The Evaluation Game* tells untold histories of measuring science. One of them is the geopolitical dimension of the reactions to publication pressure. Such reactions vary and are influenced by the historical and cultural context of research evaluation systems' implementation. Hence, the degree of trust in metrics and distrust in experts also differs between the United States, Western Europe, and Eastern Europe.

An extensive exploration of the modernizing potential of measures and metrics used in the Russian Empire and then the Soviet Union explains the difference in such reactions to some extent. This investigation reveals that metrics used in monitoring and evaluation in academia were implemented in Russia more than a century and a half before the emergence of neoliberal logic in the science and higher education sectors. Thus, research that started out of curiosity about different reactions to metrics in current research communities in different countries has led to the origins of the first national system of research evaluation in the Soviet Union. This was an *ex ante* evaluation system that was primarily aimed at making sure that research aligned with state values and policy objectives.

Studying the origins of measuring scholarly communication also led to the second untold history related to the Polish origins of the science of science and the role of Soviet scientometrics. The science of science served as a tool to inspire science policy changes after World War I, and Soviet scientometrics, inspired by the Polish approach, laid the foundation for various research evaluation systems. The legacy of these systems persists in much of today's Europe, manifesting in a peculiar reliance on metrics over experts.

### Playing the Evaluation Game

The evaluation of researchers and universities elicits a diverse array of responses to assessment expectations. Some metric-based systems successfully motivate researchers to adapt their publication strategies and target higher-quality, more reputable outlets. In contrast, other researchers choose to adhere to evaluation rules and satisfy metrics-based expectations with minimal personal cost, often resulting in numerous, occasionally low-quality publications in less reputable venues. However, a substantial portion of such practices should not be labeled as "gaming" but rather as "playing the evaluation game." *The Evaluation Game* contends that the term "gaming" fails to accurately capture the manner in which researchers alter their professional communication practices in response to publication pressures and evaluative metrics. Researchers publish more low-quality pieces instead of aiming to publish one outstanding paper because what really matters to keep their position (from the perspective of the evaluation regime that they are subject to) is the quantity of papers. In other words, researchers who engage in the evaluation game are not driven by a desire to maximize profits, but rather by a desire to maintain their *status quo*, which serves as their primary motivation.

### Use Metrics, Don't be Ruled by Them

Academia will not escape metrics, but we must put an end to the perception that science can be reduced to the publications of individual researchers working at individual institutions. It is also not possible to return to a situation where there are no metrics and measures in the management and organization of science because such a situation simply never existed. Metrics have always been used—either as tools of modernization or of monitoring and oversight.

*The Evaluation Game* urges policy makers, managers, and researchers to embrace seven principles for an improved, metrics-balanced scholarly communication system. First, cultivate an academia that inspires excellence in researchers and managers. Second, substantially increase sustained research funding through block grants. Third, ensure stable employment and competitive salaries, especially for early-career researchers. Fourth, involve researchers in defining evaluation criteria and generating metrics. Fifth, deindividualize evaluation and acknowledge modern science as a collaborative effort. Sixth, let academia manage key scholarly communication infrastructures. Lastly, ensure transparency and accessibility in metric-based evaluations. By adopting these principles, we can foster a more balanced, effective, and collaborative academic environment that would prioritize quality over quantity. Let us make sure that our goals, values, and beliefs guide metric usage rather than alter our values to meet metric-driven goals. ▲

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