

## Evaluation of scientific merit

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**T**he evaluative process is essential for the quality control of projects and research(ers). To evaluate is to measure, compare, judge, or valorize. The evaluative process should be permanent and incentivize decision making. The value and pattern of the evaluation must be clearly defined, to determine the best characteristics of the science. High-quality innovative studies should be disseminated and highlighted in high-impact journals.

The scientific world is witnessing an information revolution of inestimable scope. The question of “quality versus quantity” in the scientific process is increasingly being discussed in the search for the ends, means, criteria, and priorities of the evaluative process. A goal of the science management process is the transformation of scientific findings into tools that can generate employment and wealth in the country where a discovery is made. Natural wealth, funding availability, human resources, science, and applied science (technology) are necessary elements underpinning the economy and the maintenance/improvement of the quality of life of a society.

Researchers must live in a state of continuous evaluation. Aside from the self-evaluation that comes with being human, they must evaluate their projects, which are part of the richness of their lives as researchers, from the perspective that they are generating new knowledge. Such evaluations should be based on goals that are capable of being reached, measured, and valued. Moreover, researchers should be able to contribute to the creation of new technologies that privilege societal modernization. In this respect, every project must advance, break limits, destroy dogmas, and catch sight of positive results.

The process of analyzing a researcher’s merit involves evaluating his/her abilities in terms of the coordination of scientific activities, human resource training, and the ability to produce relevant research that contributes to the preservation of the species itself. Scientific merit is tied to an individual’s unshakeable creative and innovative capacities, as well as his/her ability to shift paradigms. Thus, the global evaluation of a researcher includes qualitative inter- and multidisciplinary activities to identify the researcher’s natural leadership and coordinating abilities.

The final product of a research project—its results—represents the value of the research. These results may include a solution to an important problem, a patent, or a behavioral change. In the final analysis, the result of the scientific research should lead to an improvement in the quality of human life. The degree to which the research repays debts to society and to the managers of the resources invested in the research should be considered as indicators of the quality and merit of the researcher and his/her project. One of these indicators is publication in

journals with distinct levels of impact, importance, and scope. The scientific community is increasingly committed to proposing alternatives to the glorification of quantitative indicators of scientific production alone. There is an increased recognition of the *qualitative* value of the scientific life, the researcher, and his/her contributions more globally, such as her/his human resource training, production of novel and insightful research, etc.

Research(er) excellence refers to a performance that complies with defined goals: when the research is relevant and applicable, the scientific community should be stimulated to produce and transmit the associated knowledge. By valuing the evaluative process, performing quality control, and establishing clear priorities, the evaluation process can stimulate

excellence in scientific achievement and strengthen the impact of scientific developments. Society as a whole should recognize the relevance and quality of the research(er), as measured by his/her productive life, the recognition that s/he achieves in the scientific community, and the benefits s/he brings to society. This holistic approach to evaluating the value of research is opposed to any unnecessary fragmentation of the problem to be solved and the undesirable “salami science.”

In summary, evaluating the potential of a researcher is a complicated process that involves various factors, such as the researcher’s qualitative capacity for creating new knowledge, human resource training, and leadership skills, not just the traditional quantitative indicators related to the research itself.