

[Kakenhi Essay]
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Lessons Learned as a Grant Application Referee

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I am someone that has benefited immensely from Grants-in-Aid for Scientific Research (Kakenhi) and consider myself fortunate to have received grant assistance for a variety of projects for Grants-in-Aid for Scientific Research, Scientific Research in Priority Areas, and Specially Promoted Research. As something of a side-benefit, I have also enjoyed opportunities to be involved in the screening of research applications for not only Kakenhi but also grant funding from a variety of other sources, and in the process, have gained exposure to the latest information in a range of scientific fields. In particular, during the interview-based stages of the screening process, I have been briefed in easy-to-understand language by top researchers in assorted fields on their accomplishments to date and the directions in which their research is headed. Although it would be wrong to publicly leak the information I have gained through these screenings or to use it for my own research, I have still benefited indirectly from exposure to that knowledge. At the very least, I have certainly enjoyed the intellectual stimulus. Conversely, for individual grant applicants, I feel the screening process provides a perfect opportunity to reflect on the position of their research field within the broader sphere of science as a whole and the implications that advances in their field may hold. If applying for Kakenhi provides an applicant with the opportunity to develop this perspective, then even that alone arguably fulfills an instrumental role in facilitating scientific progress.

Which Tastes Better, Curried Rice or Ramen?

One of the more onerous sides of screening applications for Kakenhi is that the research projects can vary quite significantly in their scope even if they are categorized under the same research field. Although it helps if applicants can brief us on their projects with a perspective that takes the broader spectrum of scientific endeavor into account, many applicants tend to apply much more specialized perspectives at this stage. The situation for application referees is analogous to that of someone who has never eaten curried rice or ramen being compelled to answer the question of which dish tastes better. Of course, the application documents will usually contain the views of experts in the field concerned and are extremely helpful in that regard. That said, it should still be kept in mind that in some fields, progress is driven by mutual criticism and disagreement among the experts whereas in others, it is a product of mutual cooperation.

Given these factors, it seems only natural that applicants with a clear understanding of the implications or prospects for their research within the wider scientific scheme of things will have an advantage. Although applicants typically strive to underline the importance of their research or field from their own perspectives, application referees have to set priorities in terms of importance to the broader realm of science in general. In that context, meetings of Kakenhi application screening committees can be an occasion for serious contention between application referees and applicants.

Cross-field Competition: a Matter of Future Importance

Comparing preferences for curried rice or ramen is still a challenge with a focus in the same field or context that at least allows subjective judgments to be made. However, comparisons of widely disparate fields are a challenge beyond the capacity of the typical application referee. For example, referees have a tough time reaching decisions when it comes to screening grant applications for projects in specially promoted research from the broader perspective of science and engineering in general. One has to wonder how public servants in the Ministry of Finance Japan pursue their assessments every year when compiling the next national budget. Let me digress from the topic of

Kakenhi for a moment. It is anticipated that cross-field competition will become an increasingly serious issue for society and the university sector in the future. Many universities have already concluded their expansionary phases and cannot be expected to hire more faculty members to handle new academic fields. The scrap-and-build approach to higher education, with new academic fields added as quickly as possible while fields deemed to be of lesser importance are downsized, will be a major issue in the years ahead. The drive to achieve a quantum leap in the speed of scientific research, together with the steadily shortened life cycles assigned to research topics, has intensified the need for this scrap-and-build approach. This is a painful lesson with which many university academics of the current and earlier generations have no experience, whatsoever. Nonetheless, if we err in addressing this problem, the future of our universities and of science and technology in Japan clearly will be at risk. Any decision to abolish or introduce an academic field will demand that we have people who are capable of performing objective assessments of a variety of scientific fields. Although many universities in recent years have implemented university research administration (URA) programs, will URA personnel handle that task? It is strongly advised that university instructors be trained through research grant application screening and other activities to apply a comprehensive perspective in their assessments of a wide range of scientific fields.

Cultivating Academics with Scale

University reforms following the incorporation of Japan's national universities have gradually undermined the small-classroom system and led to the downsizing of research organizations. Additionally, tenure-track programs and JST initiatives including PRESTO, among other factors, have intensified efforts to help young academics gain independence. These efforts in organizational downsizing will probably facilitate the eventual scrap-and-build approach. That said, many researchers are accustomed to being engaged in highly specialized research and excel in their respective fields but have little knowledge of, or even an interest in, other fields. One reason for this state of affairs is that after being assigned to a laboratory in their university department, they stayed there and became university faculty staff upon obtaining their doctorates. In other words, they were trained to be workers. Students that in the course of their classwork are exposed to a variety of fields up until completion of their master's degree will be equipped as researchers with broad scale. University instructors with that training will undoubtedly be able to flexibly transition into new academic fields. For years now, Ministry of Education, Culture, Sports, Science and Technology (MEXT) has advocated this pattern of advancement. Young researchers today are increasingly expected to pioneer new fields or domains of their own at an early stage before whining about or resisting the elimination of the fields in which they have already specialized.

Which Comes First, the Research or Research Funding?

Compared to outside sources of funding, allocations of Kakenhi far more accurately reflect the true abilities of individual researchers and those allocations are indisputably made on a fair basis. In its university evaluations, MEXT also apparently lays emphasis on the number of research grants and amounts of grant funding approved. Many universities, in their evaluations of faculty members engaged in experimentation and research, incorporate considerations for track records of research grant funding received. In contrast to outdated university evaluations and subjective personnel evaluations, these approaches can be regarded in a positive light. That said, in recent years they also have been accompanied by certain prominent side effects. For example, one is an emerging tendency among academics to engage in research so that they will be eligible for Kakenhi. In reality, without the grants, the average administrative budget per faculty member would be several hundred thousand yen a year—an amount likely to be exhausted entirely by the seminars held with students from day to day. University grant application guidelines typically contain instructions to the effect that an application be filed after a meaningful research topic has been identified and to begin that research once grant funding has been approved. However, in reality, some researchers chiefly interested in acquiring grant funding have adopted a policy of churning out research papers

on themes that can produce ready results, and pursue their originally planned research after that grant funding has been secured. If this practice is allowed to fester, eventually some researchers will be encouraged to write irresponsible research papers. I use the term “irresponsible” here in reference not to fabricated research papers but rather, to papers with findings that remain inadequately substantiated due to manpower shortages or constraints on the time or funding invested in the underlying research. However, for a certain researcher that lacks ethical integrity, fabricating one’s findings may simply be the next step. Of course, it is not my intention here to suggest that competition for Kakenhi can be a causal factor behind fabricated research. That would be tantamount to claiming that capitalist economic systems are the reason behind currency counterfeiting. Needless to say, whereas currency counterfeiting is a criminal offense subject to stiff punishments, no one in Japan has yet faced criminal penalties for the fabrication of a research paper. Although this is an extremely regrettable situation, perhaps the time has arrived to require that researchers, upon their receipt of research grant funding, sign an oath pledging to resign if they are found guilty of producing fabricated data.

My essay digressed rather far from the topic of Kakenhi but still gave me an opportunity to express my gratitude for the grant assistance I have received and the benefits I gained from my referee experience to this point in time as well as air some of my personal views and opinions. I would be happy if it is treated merely as the penned ramblings of an elderly man.