

Editorial

Most archival journal publications are based on research carried out at institutions of higher learning or universities. Typically much of this work is carried out by junior researchers under the guidance of senior faculty members who typically initiate, guide and manage the project from start to finish. Training of accomplished researchers is one of the true goals of research-intensive universities. With adequate support facilities, human and financial resources and high quality of education the researcher received in his/her earlier years, useful research results are often obtained and widely disseminated globally for the common good. In recent years, many institutions observed that sometimes (although rarely) the research outcomes may have significant commercial value and so they started to examine the potential of intellectual property rights via patenting and other means. This clearly must delay and limit access to the proprietary results. This is more likely to happen for research funded by industry, whose legitimate goal is to make profit on the R&D investment.

While economic benefit does accrue from this model of academia-industry linkage, this happens on rare occasion. If a major portion of academic research follows this route, clearly there will be no curiosity-driven basic research that can potentially have much bigger global impact than any one research project can possibly have. What is needed is a mixed bag of industry-driven (and supported) research along with a curiosity-driven portfolio of research projects that create new ideas, new theories and produce researchers with a strong fundamental base, ability to think independently and creatively and work out of the proverbial "box". Fortunately many of the world-class research-intensive universities around the world are indeed following this dual path.

Statistics on industrial funding of university research are hard to come by. Estimates range from 11% of total higher education research and development expenditure (Canada, 11.8%, 1995) to 7.2% (USA, 1994) to only 2-3% in Japan and France in 1995). While the accuracy of these numbers may be disputed, the fact remains that industrial contribution to academic research effort is still low.

There are several avenues for industry-academia links e.g. informal contacts of faculty members with industry due to their recognized expertise, formal funded R&D contracts between academia and industry, use of science park facilities by industry, licensing out of technology generated in academic institutions etc. In addition, industry can sponsor scholarships, provide grants for open-ended research aimed at excellence rather than a specific research outcome, provide/ sponsor esteemed professorships at universities, fund research centers supporting research in areas of their general interest without limited its scope etc.

Industry dependence on universities for R&D and new ideas that existed in the 19th century Germany will never recur since most major industries have in-house R&D facilities and expertise. However, industry can ill-afford not to tap into the high caliber research culture at major institutions to look for new ideas, better insights and importantly seek highly trained research personnel to drive their own industry to new heights in coming years.

In summary, industry-university links provide a true win-win situation. Such linkages are no longer constrained by geography. Thus, the links can be truly global and hence highly impactful.

Arun S. Mujumdar
Editor-in-Chief
National University of Singapore