



# Research Boost in Indian Universities

India's worried. None of our higher education institutions are in the top 100 list of either Shanghai Jiao Tong University's ranking of world universities, or in the Times Higher Education list. Whether we look at the number of PhDs produced, papers in journals with high-impact factors, or patents—in all metrics of research output—China has left us behind.

Experts are unanimous—we need more money. Research faculty needs to be paid more than the salaries that Sixth Pay Commission has asked for. After all, the competition for research manpower is global. Government should fund IITs and universities liberally to improve research infrastructure. And, budget for government agencies that fund research projects in academic institutions, should be increased substantially.

## The Real Problem

While money is important, to improve research, one needs to ensure that all stakeholders are properly incentivised to work towards a common goal. A faculty member must have incentives to do research. And, institutes must have incentives to encourage faculty to do research. India encourages neither.

Consider an institution's motivation for research—reputation and brand building. Unfortunately, both cost money. Typically, there are two major sources of income for universities. One is from tuition, the other is direct funding from agencies such as Department of Science and Technology (DST). Increasing tuition to support research is not a realistic solution. Most

students and faculty members are in affiliated colleges, which are not allowed to set a fee structure. The Centre sets fees at such a level that even paying for running expenses is a challenge. When an appropriate amount is charged, it's brought down by the government. Project funding is a stronger way to support research. However, the way central agencies fund research does not cover a significant part of expense. Project funding usually supports purchase of equipment used for a project, staff salaries directly hired for a project, travel and contingency expenses. Normal funding does not allow salaries to be paid to permanent employees of a university (faculty) who may be spending a significant part of their time on a project. They don't pay rental for the space used by equipment and staff. They don't pay for the infrastructure such as the computer centre, internet, library and journal access and electricity.

## Varsity Blues

Look at the faculty cost. If a university is only interested in knowledge dissemination, it hires faculty to teach at least three courses per semester. On the other hand, if a university wants to encourage knowledge creation, then it asks its faculty to typically teach two courses per semester.

So, the second type (of university) needs to hire at least 50 percent additional faculty. Faculty salaries are a significant part of any university budget

today. It's only fair that universities expect a faculty to spend 1/3rd of his time on research, then 1/3rd of his salary comes from that source, apart from the undergraduate tuition.

### Project Proposal

Then there are the costs of preparing a project proposal. If a faculty is expected to spend time on research, either the university or the funding agency needs to provide her with initiation grants to start a laboratory. After all, the faculty member may have other research expenses such as travel expenses (to the field or to conferences).

Most agencies do pay an overhead cost of the project budget. But, these are inadequate. DST pays 20 percent overhead. Others pay around 15 percent.

### Erroneous Mathematics

Funding agencies argue that institutes have built-in infrastructure funded by the government. They add that the overhead cost is only a small amount which covers the incremental expense of administering the project. Today, 90

Several agencies don't fund proposals sent in by private institutions. Perhaps the "disinterestedness" stems from the fact that individuals involved in the decision-making process are afraid that they may be accused of "wrong doing" if a private institution is not able to show reasonable amounts of research output. Research fund policies have almost made sure that almost the entire non-government sector in higher education does only a limited amount of research.

### Promotion Problems

Within the government sector, what is the incentive for an individual faculty member to conduct research?

If we look at the career of a member of faculty in an IIT, one goes through two rounds of promotions—from being an assistant professor to associate professor and from being an associate professor to professor. At the time of promotion, the selection committee does look at an individual's research record. A strong record helps in promotion.

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percent of higher education is conducted through private institutions. And most research projects supported by government agencies are an additional loss to these private players. Government agencies show that most research proposals come in from government institutions—that is perhaps true, because these projects are a "loss" for private institutions; most are unlikely to apply for several projects.

Few government institutions that do apply for project grants have an incentive to cheat. If the project needs 10 personal computers, the budget is put as 20 personal computers. This kind of fudging is difficult for a private institution to pull, since their budget is screened carefully. Project monitoring is also strictly done, since the general perception is that private institutions are more likely to cheat.

There is also a bias against private institutions when it comes to approving project proposals.

A teacher becomes a professor between ages of 40 and 45 years. For the next 20 to 25 years, there is no promotion or any other incentive to perform. Most people do need to be incentivised for better performance.

### Speedy Solutions

If India is indeed serious about research, solutions are obvious. At the institution level, funding agencies must grant a greater amount of money as "overhead charges". They need to be flexible in terms of allowing payment to permanent employees from project funds. To encourage an individual, there should be a component of salary hike linked to performance. Sixth Pay Commission has already allowed the institutions to set up such a scheme—more such incentives should follow. **EDU**

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### Dheeraj Sanghi

Dr Sanghi is the former director of Laxmi Narayan Mittal Institute of Information Technology, Jaipur. He is a professor of computer science at IIT, Kanpur. Dr Sanghi has a BTech in computer science from IIT Kanpur and an MS and a PhD from University of Maryland, USA. He can be reached at [dheeraj.sanghi@edu-leaders.com](mailto:dheeraj.sanghi@edu-leaders.com)