THERE IS A LACK OF QUALITY ENGINEERING EDUCATION IN INDIA

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The Union Ministry of Education released the [National Institutional Ranking Framework (NIRF) rankings of 2022](#) in July. An analysis of the top 200 institutes of technology and engineering colleges presents a disquieting picture. The best institute in the category scored 90.04%. But the 50th best scored only 50.11%; the 100th best institute scored a mere 40.14%; and the one ranked 200th scored as little as 33.7%. One can imagine the situation of the remaining 1,049 institutions that applied but got no rank. And how terrible must be the situation in the approximately 4,500 institutions which did not even apply for the ranking?

These top-ranking institutions accommodate about 30,000 students as against the 11 lakh-12 lakh who register for the JEE Main exam. The odds to get a seat in one of the top 100 institutions are as low as 2.73%. Only 0.9% make it to one of the top 10 institutions.

Meanwhile, during the peak of the placement season, we keep seeing news about engineering graduates bagging job offers worth lakhs of rupees. Liberally embellished with encomiums like 'hard work pays' and 'institutions matter', these stories both entice prospective students and justify increasing fees. They rarely clarify that the reported packages are the rupee equivalent of U.S. salaries in dollars with no regard for the cost of living or for purchasing power parity. Those who get such placements know well that by U.S. standards, these salaries could only be regarded as decent.

They also know that their take-home salaries are only a fraction of what is mentioned in the headlines. A major proportion may comprise a sign-on bonus, a relocation allowance, restricted stock units (RSUs), and employee stock options plans (ESOPs). RSUs alone could constitute around 30% of the annual package but are typically paid over four years, with only 5% and 15% paid in the first and the second year, respectively. What appeared to be 30 lakh would turn out to be only 1.5 lakh in the first year. Sign-on bonus is rarely paid upfront; instead, it is usually disbursed over about 24 months. The base salary component is only a fraction of the total package.

Placement headlines also rarely reveal that such offers are rare, limited to only a minuscule number of graduates, and are generally confined to international placements, mostly in the Information Technology sector. Of the about 30,000 students graduating from premier technology institutions, not more than 100 bag such offers.

But who bothers about such details? Most parents dream of 1 crore plus placements for their children, unmindful of the immense stress that they put their young ones through. This triggers a mindless rat race to get students into institutions of national importance. Students chase quality institutions, which, to them, are those that offer an assured placement, preferably with a dream package.

This, coupled with the scarcity of seats, makes a fertile ground for commerce to capitalise on. Coaching for entrance tests now commences from Class 9, if not earlier. Children are often forced to take time off from their studies to focus on admissions. In the process, they are robbed of their ambitions and passions. They are forced to realise the dream that their parents and peers have seen for them and become doctors and engineers — not as much to serve society as to make big money. Dejection on the one hand and persistent peer pressure on the other

cause anxiety, depression and even gives birth to suicidal tendencies.

But does this mean that India has a severe capacity constraint in engineering and technological higher education? Official data tell otherwise. The All-India Council for Technical Education (AICTE) has already approved an adequate number of institutions in engineering and technology to admit at least 23.67 lakh students. That is twice the number of aspirants for engineering education. There is, thus, neither a scarcity of seats nor capacity constraints. The nation is, in fact, staring at a dearth of institutions offering quality engineering education at an affordable cost. In business parlance, that is the ability to deliver value for money.

A quick review of the data reveals that the task is daunting. AICTE has so far approved 5,926 institutions to offer programmes in engineering and technology. Of these only 1,249 (21.07%) came forward to get ranked under the NIRF in 2022. India probably doesn't need more institutions. The scope of enhancing the intake in the existing quality institutions also appears limited. What is needed is improvement in the overall quality of technical higher education across the board.

The youth are aspirational. Monetary rewards are a major attraction. But that does not mean that they are not orientated towards national development. Headline placements serve the purpose of sustaining such motivations. It is now for the nation to mitigate the widening gap between the best and the rest, and ensure equality of opportunity in access to quality technical higher education.

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