



Re-engineering The Masters Programme

In India, the two-year MTech course is often considered to be an equivalent of a research programme. But, is a simple MTech degree adequate to fulfill our country's growing demand for technocrats? Not really. Students and the industry desperately need master-level programmes that help meet changing needs. And the innovation universities could help.

Take the example of India's software industry. In the past 10 years, it has recruited more than a million graduates. However, post-recruitment, newbies are often not ready for the industry—a fact that is evidenced by the extensive training that they have to undertake. Such “training” is a reality for corporate India. However, after a decade of such training and growth, employees find themselves on a plateau. The only way up seems to be through the management route. This perception is partly due to the structure of the software industry, and partly due to the fact that an MBA course is often easy to pursue—when compared to a technical engineering course. It is unrealistic to expect a professional to take a long break—and management institutes have realised that. Engineering institutes, however, have not. As long as the industry grows at a rate of 20 percent and more, it will be able to absorb a large number of management graduates. Soon, however, the need for technical knowledge will be greater. The training that a company provides cannot compensate for on-campus education. If the industry has to move up the value chain, it will require better educated, not just well-trained employees. Which implies that there is a scope and a market for year-long MTech. If some university starts it, it would be doing the industry a favour.

Brevity Is The Key

Such short programmes are common in the US. The country offers multiple options for a master's degree. A student can tailor his or her coursework to suit one's needs and ambitions—few classes and loads of projects, or more classes and less research. And the programme is short—and can often be completed within a year. (Though a thesis option normally takes six months more). The way MTech programmes are structured in India, it would be easy to compress them into even shorter and compact courses. At one of the IITs, an MTech student was required to do four courses in his first two semesters and follow it up with research work in his last two. Each course was worth four credits, and a student is expected to complete 32 such credits from the course work and 32 from the research work. Till a few years ago, an MTech student only received 48 credits.

Why is it that a BTech student completes six courses in a semester while an MTech student only four? Granted that MTech students are expected to provide teaching or research support to their department for 10 hours a week. For this extra effort, students also receive financial assistantship. If some student is willing to forego this financial support and go for the additional courses to finish early (and grab a better, higher corporate salary), our system should make it possible to complete six courses in a semester. The system should give more credit to MTechs—after all they

are older and more mature than undergrads.

Technical Course Map

The rest is straight-forward enough. Let's say an MTech programme starts at the beginning of summer. A student can complete two courses in one summer, six in the two semesters, and another two in the next summer. In 14 months, a student will then have completed 16 courses. The aim is not to dilute quality, or reduce credit requirements, but shorten the time taken to do this. Since, the focus group for such courses would be professionals who wish to enrich their technical knowledge, it would be possible to start such a programme in the beginning of summer, without waiting for BTech results. In fact, one can further reduce the time span to one year, by making a student complete his or her project work (equivalent to two courses) in the second summer of the course.

To ensure that the programme runs smoothly, the ISB model can be adopted. The ISB model does not have an 18-week semester. It has a six week term (including a couple of days break

pressed learning. Corporate training is almost always in the compressed mode.

The programme makes financial sense for all stake-holders. Assuming that high-quality faculty could be recruited by offering a compensation of Rs 10,000 per lecture hour, the faculty cost would be Rs 400,000 per course. If the infrastructure exists, one could expect all non-faculty costs to be roughly equal. So, the total cost would be around Rs 800,000. Assuming that the course taken in 40 students, average cost per student would come to around Rs 20,000 per course. If a student has to complete 14 courses, the total cost would be around Rs 2,800,000.

Even if we include perks such as a free laptop, invite foreign faculty at a higher cost, include personal costs of the student such as mess food, total cost will be within Rs 400,000 for the programme.

In current two-year programmes, typically a student earns enough to take care of tuition. In the proposed programme, a student will incur a cost of Rs 400,000.

This is peanuts compared to what he or she can earn in the year that will be saved.

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between two terms). A student does not complete six courses in parallel, but two at a time within six weeks.

It is easier to bring in high-quality visiting faculty for six weeks, rather than for a full semester (18 weeks). In all, the year is divided into seven six-week-long terms. Dates are tweaked to invite faculty and experts from overseas. A similar model can be adopted here. We do know that between June and August, it is summer (term) in the US.

Working this to our advantage, the first two terms of a compressed course may be fitted in this period. One could offer a break of three weeks after four terms—to be used for placement.

Puritans may balk at compressing courses so much. But, I believe that at the masters-level, when one has motivated students and faculty, learning can be made faster. Management education has already shown the effectiveness of com-

Students will be attracted to this programme, if their employers promise to retain their jobs after they return, or there are other employers who promise to consider them at a higher salary, post-training. To smoothen out additional wrinkles, the institutes may enter into agreements with banks and corporate houses before offering this programme. Again, since the target would be professionals, it will be unrealistic to expect them to sit for GATE.

The admission process will have to be flexible, considering their academic record, testimonials and an interview. It may be a good idea to consider the GRE scores, if a candidate has taken this exam.

To summarise, Indian universities need to innovate to solve real problems of the industry—a lack of employable technical leaders as NASSCOM points out. The idea of an executive MTech programme is a step towards this direction. **EDU**

Dheeraj Sanghi

Dr Sanghi is the director of Laxmi Narayan Mittal Institute of Information Technology, Jaipur. He is currently on leave from IIT Kanpur, where he is a professor of computer science. He 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