

Linkage between Higher Education and High-tech Industry

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Abstract: Higher education plays a very important role in education system in India. There are several types of higher education institution in India mainly universities deemed to be universities, colleges, institutes of national importance, post graduate institute, etc. A University can be setup by the state legislature other post graduate institute and polytechnic that are recognized by the all India council of technology education (AICTE). In order to research the Industries should give some finance to the universities.

Introduction

Here we highlight a few key aspects on the higher education system

1. Funding & fee regulation

The funding of fee regulation should be affordable by the student on minimum range of 22000 to 72000 per year and students may get loan facilities.

2. Uniformity

The salary remuneration structure for the universities across different universities should be uniform & in nominal term.

3. Affiliated colleges

Under graduate teaching is mostly done at colleges affiliated to the university and is based on pre-determined curriculum. These colleges can include professional education also. The term affiliated means it is registered under some university abiding to all rules and regulation and procedure as framed by the universities, Usually admission are done on the bases of performance at a qualifying school leaving examination.

4. Separation of teaching and research

They should give separate opportunities for the research scholar's through the council of scientific research (CSIR) and creation of social science research institutes through the Indian council of social science.

5. Specialized institutes for professional education

For the admission in professional education like medical, law, teacher training and business administration etc, CET exams will be conducted and on merit basis student will be admitted in colleges.

6. Linkage between higher education and hi-tech industries in India

The high technology industries in India have seen some growth in communication and computer related services, it has increased in recent years which has resulted in increase in need of the knowledge and skilled related to communication and computer application in higher education. The Development technology knows how industries should give new technology to education institution and provide information and training to staff and students by arranging workshops and orientation programmes to college students through which they can inculcate the quality or skill that are needed for the company, that is labour linkage, which means they will train the students.

7. Indian bio technology and pharmaceutical industries:

In this training opportunities are create for staffs to improve access to research facilities and expensive equipments, thus providing access to government sponsored research fund.

8. Rise in Private Participation:

Four of the states, (*Andhra Pradesh, Tamil Nadu, Maharashtra and Karnataka*) are in the top five by share of private engineering colleges and are the top seven states as measured by share of private medical colleges. The surge in private engineering and technological education can be seen from the fact that the state of Andhra Pradesh had just one private engineering college in 1978, whereas the number rose to 174 in 2002, compared to 14 government colleges; and 53 medical colleges, compared to 20

government colleges. In Karnataka, their number rose from 17 in 1978 to 72 in 2002, in Maharashtra from 1 to 141, in Tamil Nadu from 0 to 137, in Haryana from 2 to 22, and in Uttar Pradesh from 1 to 58. The private sector also dominates degree and diploma courses in Ayurvedic, Unani, Homeopathy, and physiotherapy. If one ignores two states, Jharkhand and Uttarakhand, who top the list with just two private medical colleges and no public medical college.

9. Quality of Institutions:

However, while the educational sector has certainly responded to the growth of the high tech sector, the quality of the response has not been as encouraging. In terms of the student teacher ratio, three of the top five states are from the seven states that have been identified, but three of these, viz. (*Maharashtra, Punjab and Haryana*), are also below the national average, while Andhra Pradesh is just at the national average. Similarly, in terms of proportion of below average institutions, four of the seven states are among the lowest five states, three others, including (*Karnataka, Maharashtra and Haryana*) have a high proportion of institutions with a below average rating. When one looks at the pass rates, none of the seven states figure in the list of the top five.

10. Standardization of Curriculum and Affiliation of Colleges:

An affiliating system wherein colleges prepare students for a university-administered examination based on a uniform curriculum at the university level leads to very large universities thus reducing the colleges to teaching institutions and limiting innovation in curriculum, except to the extent allowed in Autonomous Colleges. To add to this, the regulatory institutions such as UGC appear to be involved in exercises to standardize the curriculum. It is difficult to introduce innovations in curriculum as there are far too many colleges, whose faculty would have to be retooled. Consequently, many colleges continue with pre-defined content. This situation has a higher adverse impact where technology is changing faster. In such a scenario, it is impossible to think of innovative multi-disciplinary courses that can induce higher research orientation and leverage increasing convergence across various scientific and engineering disciplines.

11. Poor Accreditation Capacity:

The lack of a robust accreditation system adds to the issue. The incipient accreditation bodies are all in the government sector and have limited capacity to accredit the growing number of institutions. Reputation of institutions is dependent more on its selectivity in intake of students than on its curriculum and pedagogy. This makes the role of industry in signaling quality of higher education, ambiguous companies can simply leverage the stringent selection process of technical higher education and de-emphasize the quality of instruction. This is especially true when the employees would have to be re-skilled after recruitment, e.g., in IT, where engineers from different streams enter the software sector

Conclusion:

The institutional response is therefore one of significant growth in recent years, but in a few select states that are relatively richer and led by the private sector. The private sector is not just establishing professional colleges, it is also establishing universities. Given the low number of private universities established by state acts and the much larger number of “deemed to be universities”, the preferred entry mode of the private sector would appear presumably, reason being, the regulatory constraints involved in establishing a university by state act is very large. With the approval of a large number of private “deemed to be universities”, the mix of universities is also changing.

We have adopted an eclectic approach to linkages between High-Tech industries and the higher education sector. This limited degree of autonomy in research and educational institutions when coupled with a relatively high degree of agency in industry has led to many linkages between these two sectors, especially in externally oriented service and industrial sectors like IT and pharmaceuticals despite the difficult regulatory environment. The size of the high-tech private sector in India, particularly the IT industry, has permitted it to try and evolve a compensating response to the regulatory obstacle.

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