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Industry-Academia Interface in India: Recent Activities and Strategies

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ABSTRACT

Industry-Academia Interface could be characterized as intuitive and shared game plan between academic institutions and business enterprises for the accomplishment of certain commonly comprehensive objectives and goals. Academic world is imaginative and the business has the assignment of commercializing thoughts. Industry-Academia collaboration, world over, is very restricted and no model that is generally utilized exists, however this has dependably been a theme of exchange on both sides. A profitable interface amongst industry and the academia, in the present circumstances of knowledge economy, is a basic prerequisite. Industry-academia interface brings to meet the industry's needs and expectations and the academic aspirations. Connections between colleges, inquire about establishments and private industry are examined in a developing assemblage of various issues and coordinated efforts. Coordinated effort stays subordinate upon and molded by the hierarchical and administration qualities of accomplices occupied with agreeable action. This research paper looks at the targets, difficulties and advantages of industry-academia interface. The dynamic forces operating within the industry-research institution interface are analyzed in this paper.

This extensive paper manages the endeavors made, late patterns in, and basic issues relating to Industry-Academia Collaborations in India with uncommon reference to National Education Policy (NPE) 1968, National Education Policy (NEP) 1986, Program of Action (POA) 1992, and the objectives of training set down for India in the Constitution of India.

This paper contends that there is an awesome requirement for Industry-Academia partnership. Coordinated effort amongst the scholarly world and industry has been fairly confined in India, previously, perhaps in view of contrasts in qualities and states of mind, absence of valuation for each other's capacities, aptitudes and needs, and the nonattendance of monetary impulses. It was so in the past and will be felt

in future moreover. This is similarly relevant to the understudies of specialized instruction moreover. The students pursuing higher education & technical education are not benefited by desired practical education.

Keywords: Industry-Academia Interaction, Industry-Academia Collaboration, Industry-Academia Partnership.

1. INTRODUCTION

Industry-Academia collaboration effort has dependably been a theme of incredible enthusiasm around the globe. In an economy, Innovation is a basic apparatus for employment creation and is an essential driver in tackling everyday life issues. Moreover, every Innovation driven Start-Up environment over the world, regardless of whether it is the Silicon Valley, London, Tel Aviv, Beijing or Seoul, has had Universities being the essential impetuses for the Innovation. In every one of these cases the Industry profited from connected research occurring in these Universities over a scope of branches of knowledge, as renewable vitality, material science, medicinal advances, and Big Data. Additionally, to guarantee that these developments developed into employment making business items and administrations, it was vital for the Industry and Academia to team up all through the Innovation Process. These organizations were further empowered by the separate governments through compelling arrangement making.

Notwithstanding, in spite of such far reaching acknowledgment of the significance of such associations, ironically such coordinated efforts are very constrained in India as well as everywhere throughout the world. The explanation behind this can be credited to the absence of a distinct model because of numerous hindrances to industry-academia cooperation that still continue. Amid its communication with the academia, a Start-Up's coveted time spans are moment, and speculation is gone for how rapidly new licenses or new items can be gotten. This outcomes in an innate befuddle between research introductions. Academicians additionally have across the board lack of care towards connected research and they are to a great extent ignorant of the genuine mechanical needs. This issue is further exacerbated by an absence of proper motivation to staff and concentrated specialized foundation (R&D Lab.) and nonappearance of selective industry-academia collaboration cells in campuses. Besides, joint effort is exorbitant and the profits just gather in the medium to long run, yet Start-Ups look for here and now results and clear commitments to current business lines. Numerous a circumstances, bureaucratic hiccups likewise add to the issue as the laziness and resoluteness of the administration systems result in the deferrals in essential financing.

In perspective of these deterrents, it is imperative for both the partners to make progress toward shared advantage amid the joint efforts by streamlining arrangements to guarantee auspicious direct of the examination and the advancement of the exploration discoveries. This can be accomplished by building up an incorporated model of Academia-Industry Interface. Prominent researchers/technocrats outside the college system should be urged to take part in instructing and research ventures. Tax exceptions could be given in such instances of cooperation for all use on the R&D and the innovation exchanged by a scholarly research establishment to an industry. Likewise, making of exceptional good "Seats" wherein the holder of the "Seat" will get money related advantage will likewise give suitable motivating force to the staff members.

2. REVIEW OF LITERATURE

A. Education in the Constitution of India

The Constitution of a nation is the essential archive, which might be viewed as the wellspring of enactment. The Constitution of India comparably has given countless and articles, which have an immediate or roundabout bearing on instruction. The Constitution contains the instructive theory of the Indian individuals. It epitomizes the goals, expectations, qualities and yearnings of the general population of India. It is the crucial tradition that must be adhered to. Normally instruction ought to locate an imperative place in this awesome report. Many arrangements of the Constitution have immediate or backhanded bearing on instruction.

The Preamble of the Constitution of India contains points and destinations of India's national strategy. It is a rule and a grave promise given to the country. The Constitution has put forward the objectives of India's instructive foundations. Its Preamble has mirrored the national ethos, qualities and goals and urged the targets of national strategy. It has given the bearings in which the country would simply ahead and accomplish its points.

The national objectives as visualized in the introduction to the Constitution show the vision of the country and each subject owes his faithfulness to it. Majority rule government, communism and secularism rise and guide the national exercises. The royal arrangement of training planned to get ready and armed force of ecclesiastical associates is to be changed and reoriented to mirror the national ethos and goals. This re-composed and re-orientated instructive framework is agent for setting up the future natives of the nation.

B. Educational Policy Documents in India

The National Policy on Education of India (1986) portrays advanced education as a "urgent component for survival" furnishing the Indian individuals with a "chance to think about the basic social, financial, social, good and otherworldly issues". It is visualized in the National Policy on Education of India 1986 [NEP 1986] and Plan of Action 1992 [POA 1992] that training will be utilized as an operator of essential change in financial status of individuals.

The NEP 1986 and POA 1992, state that, "the new policy will lay special emphasis on the removal of disparities and to equalize educational opportunity by attending to the specific needs of those who have been denied equality so far". The destinations indicated in the NEP are to the greatest advantage of an equitable society and surprisingly "equality" is organized over different things. The strategy proclamation tries to expel imbalances in light of sexual orientation, race, religion, locale or cast together with a change of value.

C. Indian Government Policy Statements

The need for institution-industry collaboration has been foreseen in various policy statements of the Government of India. Subsequently the National Policy on Education adopted by the Parliament in 1986 emphasized the need for the collaboration by stating that:- "The curricula of technical and management programmes will be targeted on current as well as the projected needs of the industry or user systems.

Active collaboration between technical or management institutions and industry will be promoted in programme planning and implementation, exchange of personnel, training facilities and resources, research and consultancy and other areas of mutual interest... Networking will have to be established between technical education and industry, R & D organisations, programmes of rural and community development, and with other sectors of education with complementary characteristics”.

The Technology Policy explanation, (DST 1993), arranged by the Department of Science and Technology in 1993 for broad scattering had underlined the joint effort between designing instructive organizations and industry through articulations, such as:- “Attention will be directed to further enlarge the base of polytechnics, technical and vocational institutes, and engineering institutions and launch programmes for training and retraining industrial and technical personnel in numbers significantly more than what has been attempted hitherto. Industries will be involved in this process of upgrading the human skills. Pursuit of R & D as a career prospect will be deliberately encouraged through further concrete measures so as to attract scientists and technologists to the challenges of creative science and innovative development with a target of doubling their number in R & D by 2000 AD.”

The Technology Policy statement, (DST 1993), further stated that “In view of such predominant role being envisaged for Research, Design and Engineering (R&DE) in the coming years, continual examining and reorienting the work programmes of the R&D institutions are necessary, based upon the emerging needs of the country and the areas where large foreign investments are taking place or substantial foreign technological inputs are needed. The linkages with industry, markets, customers and feedback and feed-forward research would become important and mechanisms to achieve these would be provided for”.

The DST Policy Statement 1993, which still after 20 years has relevance and much significance, had suggested various steps for encouraging collaboration, which include:

- Funding national laboratories and academic institutions through linked projects;
- Advancing academia-industry linkages by totally different proposes that, and additionally further positions for basic work force;
- Encouraging use of national laboratory facilities and their expertise by industrial units by way of contract research projects appropriately paid for by the industry;
- Developing the pool approach involving academic institution, national laboratories, together with those of the mission agencies particularly, Department of Atomic Energy, Space, Defence analysis and Development, wherepossible and therefore the user industry, for goal oriented programmes and new product development;
- Encouraging simple versatility of personnel among universities, laboratories, industry (including R&D institutions connected with industry), and the Ministries; and
- Assigning multi-dimensional responsibility to the existing technical institutions. State Governments of India have been assigned a special role in encouraging R&DE and in providing linkages at the local levels.

The DST Policy Statement 1993- document further states in the context of Policy Implementation that “R&D institutions including academic institutions would be encouraged to interact with industry and

other agencies for contract projects. Income arising out of such initiatives will become additional resources for furthering their infrastructure and other R&D activities. All measures will be taken to accelerate the process of transformation of a laboratory technology to an industrial operation through strengthening and involvement of design, consultancy, and project implementation groups”.

Initiatives by MHRD Government of India

India needs nearer association, (Pallam Raju, 2013a), amongst the academia and industry. The vast majority of the subsidizing at present for Research and Development in the nation is originating from the Government side. There is a pressing requirement for more commitment from industry in research, besides more prominent private area contribution. The business ought to draw in itself more regarding financing as well as in expertise advancement, development and enterprise. The hole between the academia and industry must be spanned to upgrade employability of our kin. While China spends progressively on research of Gross Domestic Product compared to India, (Pallam Raju, 2013a).

The Ministry of HRD, Government of India (MHRD), has set up three task forces on, (a) Research, innovation and entrepreneurship (b) skill and employability and (c) the ways to foster institutional mechanism, (Thakur 2013). The recommendations of these task forces are of wider perspective. Government is keen in promoting and fostering plans to tie up between industry academia and the Government and also in promoting top high end researcher for skill development. (Thakur 2013).

There is a need to change our foundations from focuses of information dispersal to center points of information creation, (Pallam Raju, 2013b). While there are numerous needs before the MHRD, the three zones requiring top-most consideration are:

- (a) Enhancing learning results at all levels;
- (b) Meeting the deficiency of personnel/instructors at all levels;
- (c) Industry-academia linkages to guarantee better employability of our graduates as additionally skilling of our childhood.

In advanced education, expanding the Gross Enrolment Ratio (GER) from the present 18.8 for each penny to 25.2 by 2017 and achieving 30 for every penny by 2020 is a noteworthy need. A national mission on educators and instructing is likewise being propelled to address current issues, for example, an absence of accessibility of qualified instructors and to draw in ability into the instructing calling. The Ministry of HRD has informed the National Vocational Qualification Framework (NVEQF), where proficient instruction conferred by the specialized foundations under the college framework and polytechnics under the specialized sheets will give essential abilities required to changing understudies as employable, (Pallam Raju, 2013b).

The Ministry is setting-up a ‘Academia-Industry Interface Council’. The Academia Industry Interface Council is an essential activity where we need to advance bleeding edge investigate, enhance the nature of instructing learning forms and enhance employability of our graduates. The corporate area can work together with the academia with changing subsidizing responsibilities - running from direct proprietorship and administration of foundations to teaming up with advanced education organizations in research, personnel improvement, framework creation, understudy grants and administration. The suggestion by the Narayana

Murthy Committee to set up the 'Chamber for Industry and Higher Education Collaboration' (CIHEC) to encourage industry-foundation joint efforts is in reality the route forward, (Pallam Raju, 2013b).

Numerous understudies who wander into the corporate world aren't occupation prepared. The MHRD has found a way to expand their 'employability quotient', (Pallam Raju, 2013b). The present college instruction system builds up the understudy's explanatory, thinking and consistent abilities, yet can't create employability aptitudes to create him in a position to discover important business.

The MHRD will likewise dispatch the National Employability Enhancement Mission (NEEM) through AICTE. The target of NEEM is to offer at work down to earth preparing to upgrade the employability of a man either seeking after his/her graduation/certificate in any specialized or non specialized stream or somebody who has suspended his/her degree or recognition course to build employability. Any general public/trust/organization enrolled under segment 25 of Companies Act, 1956 might be qualified to apply for enlistment as a NEEM operator. It is normal by the Ministry that this NEEM activity will bring the instructive organizations and industry together to train, temporary positions and therefore better employability, (Pallam Raju, 2013b).

There is a requirement for more commitment from industry in research, since, the subsidizing at show for Research and Development in the nation is originating from the Central Government side. The business ought to connect with itself more as far as financing as well as in ability advancement, development and enterprise. The great work of coordinated effort amongst industry and the scholarly community would be perceived through yearly honors.

Thus, Key Initiatives to promote industries- academia collaborations in the country for greater national productivity are:

- An Incubation fund will be for 100 institutions, which will provide seed money for incubating ideas of students and facility.
- The National Employability Enhancement Mission (NEEM) will be launched through the All India Council of Technical Education (AICTE). The framework will provide a vehicle for companies and entrepreneurs to provide employability skills and internship as value added proposition to student for all fields.
- An Academia-Industry Interface Council with representatives of Industry and Academia shall be set up;

Initiatives by CII in Industry-academia Linkages

Indian Industry is keen to get associated with the academic community, (Forbes, 2013), for its own particular advantage as the nature of labor in industry can't be enhanced without centering to quality in the academia. The Confederation of Indian Industries (CII) has made a few strides toward this path including expanding the quantity of Ph.D. partnerships from 100 to 1000 and financing of worldwide advancement union. Be that as it may, the size of cooperation is low between these two areas, (Forbes, 2013).

Summing Up

Advanced education commitments to the nation's improvement are very much perceived. It is a capable apparatus for social, political and monetary change. Its importance as wellspring of new learning and

capable labor for all segments of economy can't be over stressed. In the course of the most recent five decades there has been incredible development of the advanced education framework. However in the quick evolving financial setting, the advanced education framework will be presented to in any case more prominent weights for extension. It might be a direct result of requests for social value and equity, for giving a preparation ground to gifted labor to address the issues of growing industry, exchange and trade or for independent work, for starting and overseeing social change, or only for scholarly interest.

Instructive process is to be connected with creation and work from one viewpoint and use of R & D. Re-introduction of the instructive program ought to be embraced in such a way, to the point that it produces confident and self-subordinate subjects. India has perceived the requirement for principal instructive changes and creating linkages amongst the scholarly community and industry. India is relentlessly moving to a quick tract of monetary and mechanical advancement, which prompts mounting requests on instruction and requires a profoundly differentiated human asset. As of now India is seeing a few outlook changes in the social, business and modern condition. The move from low tech to cutting edge, national to worldwide, generation to administration economy, state to private part, and the changing word related examples make interest for another work constrain with an alternate abilities profile than was requested in the yester years. The onus of making accessible this asset lies on our arrangement of advanced education. This supply of skillful human asset is essential for our monetary rebuilding and accomplishing worldwide intensity. In the event that all the accessible HR are to be found and built up, an arrangement of instruction in view of sound standard of social equity is extremely fundamental. Human advancement is the end monetary development a methods. In this way, the motivation behind development ought to be to improve individuals' lives. Be that as it may, unreasonably frequently it doesn't. The current decades demonstrate very plainly that there is no programmed connect amongst development and human improvement. Furthermore, notwithstanding when connections are built up, they may slowly be dissolved unless routinely strengthened by skilful and savvy strategy administration.

It is just as of late that means have been taken in India to build up linkages amongst the scholarly world and industry. The underlying outcomes are empowering. In any case, there is have to exercise alert while marking a 'Memorandum of Understanding' (MoU). The projects should be carefully arranged and sorted out, with viable observing systems, and with practical time-booking. The obligations of both accomplices should be obviously characterized and there must be simple correspondence between the two. Generally there is the threat of having further cases of fizzled thoughts prompting loss of trust simultaneously.

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