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Academia-Industry Collaboration for Empowering Human Resource Development: An Indian Perspective

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Abstract

There has been growing interest in the study of the role played by university-industry links in the development and strengthening of economic systems. It is consensual that university-industry links play a crucial role in the economy and many studies have examined the factors that influence their occurrence. Study of literature that university-industry (U-I) relationships and their subsequent knowledge transfers are topics of high political, economic, managerial and academic interest. Indeed, technological knowledge is seen as a major source of long-term economic growth and its transfer to the firm is critical since it acts as a significant innovation factor.In order to come to a common starting point for future research within U-I collaboration, the purpose of this paper is to explore the field of U-I collaboration research in a systematic way in order to establish how the field of U-I collaboration has been documented in theprevious literature and to point to future research areas.

Keywords: Academia-Industry Collaboration, Supply-Demand, Sustainable Development

Introduction

Education, a great force of social change, acts as a catalyst for all development processes. It determines not only the level of prosperity of an individual but the welfare and security of the entire nation as well. Higher education has occupied a dominant position in Independent India, since it was perceived as a promoter of economic growth, technological development and an instrument of upward social mobility (Kjaergaad, 2013). In fact, by providing manpower for many areas of production, planning, management and technological development, it influences practically every important national activity.

Higher education is a powerful measure of influencing people and changing their attitudes. During the 21st century, the new challenge before the country is to become a developed society, for which, it needs not only a vibrant economy but also a knowledge-based information society. It is universally accepted that education is the best source of social mobility, equality and empowerment, both at the individual and collective levels. The country must face the challenges of globalisation and the pressures of liberalisation and privatisation.

Education is a key to human development. The purpose of education is to transform human personality. Education is a preparation for life and for a living. It is the most powerful tool for the progress of the country and for bringing social change. Education, both as theperfection of inherent powers as well as the socialisation of the children, is the best investment for thefuture development of not only the individuals but also thesociety as a whole.

Objective and Methodology of The Study

The key objectives of the paper are to bring the industry and academia on the same platform to discuss issues related to industrial expectations from the institute, solve live industrial problems through projects, boost local industry in the region and to explore the possibility of setting up industry sponsored labs and facilities at the instituteand how industry and academia can collaborate and contribute to this national policy of the Government of India. The study further focuses on sustainable long term structural plans for continuous industrial development which would be beneficial to not only the industrial sector but also the field of academicsin India. The significance of enhancing

academia-Industry collaboration for augmenting research, innovation, employability and greater productivity through various measures is also emphasized" The article includes discussion on various topics like supply–demand in human resource, relevance of education, research & development and such related issues and challenges.

Review of Literature

Both universities and industry are producers, although their raw materials and output are completely different (Zhou, Tijssen, & Leydesdorff, 2016). In the era when knowledge plays a critical role in economic growth, university-industry relations have attracted growing interests of the research community. When a government involves as a third player in a research system, the dynamic relations between university, government and industry can be generalized as Triple-dimension relations (Urbano D, 2013).

Supply–Demand in Human Resource

There is a mismatch between the higher education institutions' product and employers required skilled manpower. In this regard, the 2nd National Commission for Labour in 2002 has recommended stronger link between industry and vocational training as well as private involvement in the improvement of training facilities. Thus, higher education institutions should shift their strategies from teaching and research to learning to work throughlinking to production, productivity and livelihood. There has been an increasing evidence and acceptance of the importance of human capital in the development process. The contribution of education in generating rational and scientific outlook, spreading knowledge and creating skills becomes critical for economic growth. Education acts as a catalyst in developing and actualizing the human potential of a country. The development opportunity for them makes the youth education a most significant challenge at the present time. There is an imperative of focussing on interest based learning within thecontext and enhancing opportunities enabling them to construct knowledge and develop skills, thereby improving the quality of life.

Relevance of Education and Research & Development

The relevance of education must be seen in the context of social and technological changes. Our education should be a tool to secure a job and therefore skill education has never beenthepriority just as is teaching profession. This perception needs to be altered, if we need to keep pace with the global trends (The Hans India, 2017). Secondary education in India needs to be more skill-oriented both in terms of life skills as well as livelihood skill.

It has been observed that our university system is far away from the market and the society. A sizeable number of students passing out from the universities are not up to the level of expectation of the market. Further, it is to be noted here that substantial research and development did not take place in the higher educational institutions. This gap made the industrial houses to create more research units in their own industries and training institutions to train manpower within their industrial houses (India Today, 2017). Thus, there is aneed for industry-academia collaboration under which higher educational institutions with the financial support of the industries would concentrate on research and development for industries. The higher education system should be made an integral part of the development process of the society for which academic, research and extension programmes should be chalked out through a process of conscious and continuous interaction between the higher education system and industry, market and society (Mathieu, 2011). This interactive process will enable the higher education system to face the challenges in the research domains. There is a need for having a university-industry interface in a balanced way and to assign independent research projects of industries to the most deserving.

Academia-Industry Collaboration

Universities and institutions on the one hand and industries, on the other hand, are the major wheels of reform and advancement of civilisation. Unless they work in unison as an integrated entity to ensure an efficient engine that drives civilisation, our civilisation cannot move smoothly. The academia must understand the industrial needs and business environment in the context of recent changes in the global economy. University should be the incubation centres for entrepreneurial endeavours (Smith & Katz, 2000). In these centres, young minds can generate ideas, implement the ideas and then they can realise those ideas through practice. The application of knowledge and technology and its reflection as per industry needs – all these things can be worked out efficiently through a closer interaction between academia and industry.

There is stronger academia-industry collaboration possible in the area of governance, faculty development, curriculum development, infrastructural development, collaborative research and development including sharing the success stories (Hermans & Castiaux, 2007).

It has been observed that even in the United States of America in the 1940s and 1950s, the universities and the industries were two parallel platforms, poles apart, not touching each other and it was almost a challenge for each other to break the barrier. But, today things are much different. It may be noted here that in any developing economy, universities are always in the core of the economy. In the next few decades, we must cope with the different challenges and the solutions to these will be driven by technology. The challenges would include the problem of climate change, changing the lives of rural people, food security, energy security and the like. It would be impossible for the industries to flourish unless and until we develop a collaborative system, a structured cooperation between the university/institute and

industry. Such collaboration can be advisory, it can be governed, and it can be internship and so many other fields. The executives from industries must teach in universities. Similarly, a University Professors must visit the industries to identify their man power requirements. The universities should not only train students but also managers of the industry. The knowledge-base should grow jointly by the universities and the industries and there is aneed for perpetual and sustainable collaboration between one-another. For the industries, this collaborative environment with the universities, will give them the cutting-edge technology. This would also help in creating new knowledge (Stock House, 2017). There is, however, a dire need of having wisdom. Bertrand Russell has rightly observed, "More and more knowledge to mankind is bound to bring in more and more sorrow to mankind unless this is accompanied by wisdom." Thus, it is hoped that the collaboration between universities and industries will result in creation of that wisdom, to take our country ahead.

Issues and Challenges

There are certain basic issues involved so far as academia-industry collaboration is concerned. Industry requires raw materials and to supply goods and services as per the demands of the society in a very cost-effective mode, that to be within a time-frame. There is an increasing use of Information and Communication Technology (ICT) to provide quality goods and services in the wake of global competition (Anatan). It also requires up-gradation of technology. This has necessitated interaction between academia and industry. Such interaction is visible in thevarious university systems, but most of them are at individual orgroup level. There should be such that, interaction should be ensured at the institutional level to solve the emerging troubles of different industries. Academia has facilitated laboratories for their utilisation and also provided continuous education to thenew and existing workforce of the industries. In this case, academia has received support for infrastructural development in terms of hardware and software along with human resources. Those in industries received training in human resource development, acquiring latest knowledge and other benefits from theacademic side. The laboratories funded by CSIR, DBT and DST along with university are multi-dimensional and the academia is not expected to handle this problem. The industry requires asolution in a time-bound manner and needs superior products and services. The academia, on the other hand, takes beyond the target to fulfil the needs of the industry.

The industry must establish active, long-term relationship with the university in the field of education. It may be noted here that many companies have included academicians as members of their Advisory Boards (Rohrbeck & Arnold, 2006). The universities are also including members of the industry in their Boards of Studies, which inter-alia frame course structures (Mafenya, 2013). Industrial tours are also being conducted by the universities and institutes offering projects and facilities. In the realm of academia-industry collaboration the introduction of visiting lecturer, schemes and academics to spend time with companies, would have to be used in developing new teaching materials.

Another Important issue in this regard is, the curricula that have been prescribed by most of the universities do not conform to the needs of the industry. There is a huge gap between what the industriesare looking for and what the universities are offering (Ankrah & AL-Tabbaa, 2015). The industries are looking for certain skills set. In industries, there is a huge amount of requirement for skilled manpower. With globalisation and with a lot of synergy in economic development, the need for skilled manpower is continually increasing. These problems of the industries must be addressed by providing skilled manpower, in which universities can play a great role.

There is a need to strengthen IT enabled infrastructure in the universities/ institutes where people can be connected virtually and knowledge can be shared. These institutions should implement e-governance system so as to enable them to serve the students and other stakeholders in a better way. The faculties should be made competent enough to handle thelatest technology. Thus, efforts should be made to train the faculty in handling latest tools and technology. On the other hand, the software companies in the country can support in this regard i.e. to facilitate the IT-enabled knowledge connectivity.

The industries can sponsor in infrastructural development of universities and institutes (this system is already in vogue in many places) and in return can demand some concrete results and possible support. The universities can provide certain knowledge and the same knowledge-base can change depending on the changes in the industries and the industrieswill have to owe liabilities to train their personnel as per their requirement after hiring them from the universities. Universities are seeking some kind of support from the industries, which is related to gross enrolment ratio.

In the present context, theemphasis is given on the soft skill insofar as employability is concerned. The skills cover ability to communicate; ability to articulate one's idea and present one's thought and ideas very clearly; teamwork and ability to solve problems. When the industries look at students while hiring, they are looking for some of the skills in addition to the core technological skills and other skills required by different segments of the society.

Conclusion

The collaboration can be mutually beneficial and bring more findings to make more effective collaborations.

Academia-Industry Collaboration for Sustainable Development

There is a need to accelerate the academia-industry for sustainable development so

as the resources can be protected for the future requirement while promoting prosperity in the current generation. The universities and industries are the mainstay and also the engine which propels the economy. We need to work on the synergies to promote sustainability of the national economy and the global economy as well. Our problem is becoming global; Global Warming is one case in point.

Academician should be encouraged to spend a sabbatical in the industry (Chen, Yang, & Park, 2012). Universities need not be just knowledge generators; they can also offer advantages to the young by making them innovative by inculcating entrepreneurial skills in them.

Imperative to Link University and Industry

Human resource is the asset of India; by 2020 it will be the youngest country in the world has an average age of 25. The main challenge before the universities is to create employment opportunities. The academia-industry collaboration is all about creating employment opportunity for the young student mass.

It is seen that the universities and the industries are the cities, as if, separated by a huge water body and occasionally there is a very small ferry service which runs between the two. There is a requirement to build a solid bridge between the universities and industries. We need universities with industries inside and likewise industries in universities inside. The university should learn from the best practices of the industry. The efficient and effectiveness models which are used in the industries get passed onto the university systems. The University academicians should work within the industry in undertaking joint research projects focused on industrial research and solve the problem of the industry. There is also a need to crystallise industry participating in quality HRD as per requirements. The spectacular advancement in the realm of science and technology that the globe has witnessed over the last several decades has largely been possible because of the collaboration between the great minds of the academia as well as those from industry.

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