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Role of Industry- Institute Collaboration in Technical Institution

KEYWORDS: bilateral working, Industry-Institute-collaboration

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ABSTRACT *The bilateral working of industry & academia is useful in enhancing the efficiency and productivity of academic delivery. It is equally useful for industry as it provides solutions to their problem by academia. On one hand, the role of industry in academia is vital in bridging the gap between what industries expect from graduates & what institutes deliver. And on other hand, academia provides manpower, research & technical expertise for betterment of industry.*

This research review paper attempts to analyse various dimensions of academic-Industry collaboration and identify possibilities where industry's contribution to academia & academia's contribution to industry would be most meaningful in current scenario.

This study is descriptive in nature & conclusion is drawn using secondary data. This research is also an enhancement of research done earlier on this topic by the present author.

1. Introduction

Collaboration between Education and Industry is need of an hour. In Asian context it plays a vital role in social & economic development. There is considerable literature available on the factors facilitating industrial modernization and enterprise development. The key factor stated is human recourse. The institution imparting technical education plays a vital role in developing the human resource.

In today's knowledge economy, a result oriented collaboration between technical institutions and industry is a critical requirement. Lack of industry institute collaboration can potentially give rise to mismatch between demand and supply of quality manpower, which, in turn, can cause disruption in the job market. This research is an enhancement to the earlier research done by the author & presented in reputed platforms of academic excellence. The additions are helpful to enhance quality.

2. Objectives of the Study

To identify the contemporary practices of Industry-Academic Collaboration

3. Research Methodology

This study is a descriptive research. Existing literature available on industry academia collaboration is reviewed to analyze the role & significance of industry institute collaboration in enhancement of mutual benefits. The research also provides the measures to improve the industry institute interaction for mutual benefit & social benefit. Examples of selected Asian countries have been taken to elaborate the point of discussion. Researchers have used their judgment to analyze the points of discussion.

3.1. Problem Statement

Researcher would like to search the practices followed by Asian Countries for Industry-Academic Collaboration?

4. Literature Review & Discussion

The very aim of this paper is to analyze the factors critical for Synergistic Industry-Academic Collaboration through literature review. The various literatures on industry academia collaboration are reviewed to present the conclusion.

Giselle LaFrance found that the industry academia collaborative experiences can help students, the prospective employees for industry, reach their full potential earlier and to a higher degree. Moreover, collaborative learning helps HR of industry to expand the reach and streamline the operations of the company, identify and shape strong potential hires, and continue to inspire the education, passion, and investment in academic tie-up so vital to the industry.

Azhar, S., M.A. Hassali, M. Izham, M. Ibrahim, M. Ahmad, I. Masood and A.A. Shafi. from Pakistan argued that the most important mandate for academia-industry linkage policy is to strengthen the industry. Pakistani Industries are facing many problems, which compromise the product price as well as international sale market. Encouragement of industries for knowledge-based product development, innovation strategy based on scientific research and sharing of industrial problems to the academicians for finding appropriate solution.

Jancy Ayyaswamy, Neeraj Saxena & Antaryami Parida in their research titled "Government mediated program on intensifying industry- academia linkages For human resource development; Experiences of an innovative model from TIFAC" found that It is difficult to convince academic institutions about the concept itself, of co-creating and co-developing an industry-oriented enterprise (CORE) within the institution.

5. Examples from Asia

Here, we will analyse the selected examples from Asian countries specially India, China, Thailand, Malaysia, Singapore & Pakistan.

It has been observed in India in last decade that it produces skilled manpower for industry and apply the academic expertise to solve for industrial problems, provides consultancy to industry and, in turn, gets sponsors from the industry for its high-tech research. Indian Government has established policies & strategies for promoting Academia-Industry linkages in India for its IT, biotechnology, engineering and agriculture sectors. By observing the sartorial growth in India, it is found that India has developed sound

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base for biotechnology sector by setting up academia-industry linkage in various institutes for biotechnology and IT.

China has empowered its R&D institutes, research funding and academia-industry linkages through profound policy based administration in 1985's S&T reform. As a result China is succeeding not only in Asian markets, but also in global market share. Strong academia-industry linkages exist across China's universities since 1950's as the university-affiliated industries were the driving force for the development of this tie.

Malaysia and Singapore are other examples of Asian successors. These countries have realized the importance of academia-industry interaction and positively implemented them in their niche products like electronics, engineering and petrochemicals. Singapore reached the height of industrial development by the 1990; however, academia-industry collaboration was realized much ahead of 1990. Biotechnology has given top priority in Singapore and many pharmaceutical companies set up manufacturing plants there. The economic growth rate of Singapore is fastest in the world, 17.9% during the first half of 2010. Malaysia's case is much different from Singapore but it is much ahead in term of academia-industry ties than Bangladesh, Nepal, Bhutan, Pakistan, etc.. On the other hand, it is the only Islamic country, contributing 86.5% of total high technology exports, such as microchips and microelectronics, which tells the story.

Kyoto University and Daikin Industries, Ltd. Collaborated on an agreement to implement a university- and company-wide project for fundamental research, the development of new products and innovation on 21 June 2013 and launched an innovation program.

6. Suggestions

Based on the observations in this literature review, authors would like to come forward with following suggestions. Technical institutions need to enter into academic association with different Institutions, Industry Sectors, and Consortiums with a view to develop, refine or modify the Curricula etc. as per their specific needs. The technical institutions should have practical approach and focus on the industry needs. It will help them to improve their focus on practical oriented teaching. It can also be done through constant interaction with leading professionals who are a part of the Industry and Academic Advisory Boards which creates a result oriented academic atmosphere and an efficient decision making process based on consultation; and through these it aims to promote an overall development of students for the maximum realization of their potential.

Technical students of universities must be involved in this R&D activity which produces skilled graduates, who after completion of the project can move to Industry. Sponsored industrial collaboration is an effective way to strengthen university. In this way, universities can spend more on R&D projects. Setting-up liaison offices within university bridges the gap between academia and industry and can promote academia-industry linkages. An added advantage of this liaison centre is to help to commercialize and market the products made by the universities. Establishment of product specific R&D units within university, containing sophisticated equipment, further boosts up the academic capacity of innovation and product development.

The industry should provide support to academia by offering sessions on contemporary business scenario. Industry can offer student oriented projects which will help students to learn about industries at the same time industry will also know about their future human resources. Industry should provide research projects to academia where faculties & students can work jointly to come with some meaningful findings.

If academic institutions, imparting technical education, follow the abovementioned suggestions, the expected result is improved quality of academic delivery.

7. Conclusion

It is a need of an hour that academia and the industries should construct strong collaborative bonding and interaction. Such bonding should not be limited till Projects and Industrial visits but should also include other important areas, such as curricula development, new project proposal writing, business sense, joint R&D activities and ethical aspects of industry workplace. Industry should make some efforts to support academia through various ways like Entrepreneurship Development Program, Management Development Program, sponsoring R&D activities at institutes which will in turn benefit industry to get skilled manpower & support in solutions of industrial problems. On other hand academic institutions can develop the model of courses in such manner which give wide exposure to the students in the areas which are required by industries. Overall, Synergistic Industry-Academic Collaboration can improve the efficiency and productivity of academia & can also fulfil the needs of industry.

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