

# Interaction to Partnership: A New Dimension to Industry-Institute relationship –Learning from Asian Countries successful experience

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**Abstract.** The impact of technological evolution has changed the view of every higher educational institution in the world to consider a change right from having problem solving interactions with industry to setting up incubation centers. The journey of cooperation between industry and institute has taken different forms in different times at different geographies. Historically, it started with simple interaction and gradually evolved to very close partnership overtime. There has been a wide variety of interactions practiced among industries and institutes which includes problem solving, curriculum development, study visits, scholarships, and apprenticeship training and incubation center. Arab, getting ready for internationalization at a fast pace is seriously looking into this to adapt and learn from successful initiatives all around the world with respect to industry institute interaction to strengthen its higher education sector and also benefit from the already established industry. The relationship to derive between institute and industry has been regarded as a natural progression of relationship from interaction elevated to structural partnership where the industrial sector assumes substantial operational risks in the design and implementation of educational projects. This paper attempts to discuss the evolution of this relationship with respect to Asia pacific countries to north east Africa and broadly discuss the inherent bases of cooperation, the objectives and the nature of various forms of interaction. It also explains a case study of a successful initiative in one of the Asian countries and tries to relate the findings with respect to Oman. The main idea is to share the learning experiences of the strong developing economies which implemented the concept and achieved success. It also tries to see the premises which make industry- institute interaction critical now. This paper will also throw some light on a new dimension called “Corporate Social Responsibility”.

**Keywords:** Institution, Industry, Partnership, corporate social responsibility.

## 1 INTRODUCTION

Historically there has been a distinct divide between education and practical training needed by the industry at the tertiary level. Especially over the last decade and a half, the falling of

barriers to international trade and investment has led to a more integrated and interdependent framework of international business. Employers today, as a result operate in an environment that demands new and constantly developing skills to retain global competitiveness. However, the impact of globalization and the paradigm shift toward knowledge-based economies have resulted in many first world countries adopting different strategies to face the challenge of bridging the gap between higher education institutions (HEI's) and global industry. According to the results of a special survey on "Higher Education: Free degrees to fly" (Economist, Feb 26th March – March 4th 2005, pp63-65), Higher education is already a global concept. So the long term quality assurance plans should be customized accordingly to make sure that the industry and institute go together making sure the strategic plan of the industries and institutes align better to enjoy the benefits of the concept resulting in preparing the graduates ready for the global society. So, the concept of industry-institute interaction will strongly bond the cyclic process shown in the below figure (Figure 1), giving everybody what they need. This initiative can be a complete replacement of the traditional methodology of the higher education followed to make sure that every angle of academia gets the fruits resulting in internationalization of higher education.

## 2 OPPORTUNITÉS FOR COOPÉRATION IN HIGHER EDUCATIONAL INSTITUTIONS

In the context of Higher education, interaction is the cooperation at the system level, between state and non-state actors and all the possible stakeholders coming under an umbrella including industries and enterprises at the institutional /National / International level. UNESCO (1999) cited that partnership may involve a wide range of actors including social partners, non-government institutions, community groups, or players in the private sector. The nature and strategies of partnerships and linkages in the education sector vary because of cultural, economic and social factors prevailing in different countries. Most of the countries already moved from the concept of keeping Higher Education offerings with the public sector. Now it's the private sector which is also given a boost to invest in Higher education in order to reach a large base and be competitive. So, the best thing which happens with this is limitations will be reduced and more freedom for customization is possible where cooperation can be sought from industries right from designing the curriculum and utilizing them in every

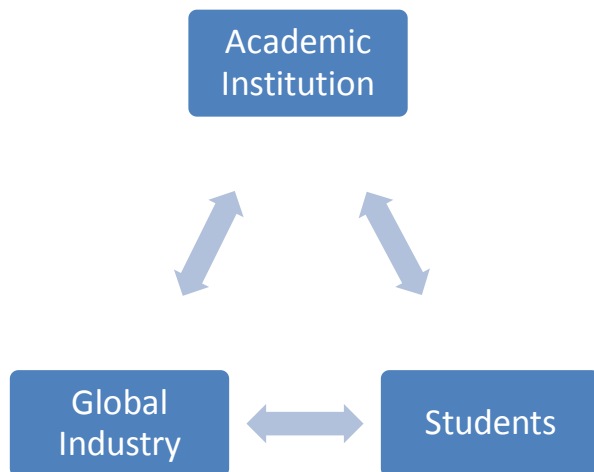


Figure 1: The cyclic process

possible way for internationalizing the whole system and it opens the door for industries to show their corporate social responsibility. The globalization factor in higher education has raised questions with respect to the modernization of higher education and showed us the way to utilize all the opportunities for cooperation so that the nation gets benefitted. Right from policy making actors to the people responsible for implementation have to act so that the cooperation can get a real meaning. Moving from a government setup to a more public private system requires a lot of effort, but it makes sure that it creates a lot of opportunities in which industry and institute can better interact and work together. Nowadays, HEI reforms are often designed to develop more comprehensive national training structures in an effort to increase public-private partnerships, to broaden the involvement of stakeholders and to make sure that training is of high quality, labour market relevant and serves the training needs of the population. (InWEnt: 2005). If we look at securing a country's future for a sustainable growth, Industry Institute Interaction should be the key.

### **3 METHODOLOGY**

This paper employs content analysis methodology, systematically analyzing studies done with respect to industry institute interaction or information in any form. It can be defined as a method that positions at the crossroad of quantitative and qualitative methods. It is a technique that facilitates quantitative examination of apparently qualitative information. Content analysis method is employed to establish objective inferences concerning a field of interest and study in any sort of communication or visual presentation. This method constitutes coding of unstructured illustrations, articles, and textual material as per an arrangement system. The process of coding necessarily organizes content of communication in a way, which facilitates for simple retrieval of content, indexing, and identification associated with research objectives. In this method, researchers identify the vital concerns concerning the gathered data and provide a main viewpoint with respect to the area of research. In order to analyze the collected data, thus research paper employs qualitative approach. Content analysis performing by using qualitative approach is frequently employed to analyze inferred or latent significance of the message underneath the research, which might direct to the establishment of theories or construct founded on evidence and knowledge derived by the researcher, from the research. Eventually, this thorough and systematic assessment permits for findings and conclusions to be revealed concerning some aspects that include, myths, contradictions, the level of coverage of specified themes, biases, theories, or absence or presence of specific ideas. This technique involves collection of data / literature that is already available online or in other tangible material. This research paper collected data only from literature that is accessible online. CA method comprises a number of strengths that justifies this method as an appropriate method. It includes lower cost as compared to other types of research methods and unobtrusive nature. This method tracks changes and uses retrospective data. This method can also be employed to track communication messages during a considerable passage of time, to evaluate transforms or identify different trends. Frequent and consequent examination on the similar matter can be productive for developing a database. For instance, a follow up research, reviewing the content of existing preliminary marketing articles contrasted the importance on different themes with two prior researches. This phenomenon permits the researcher to manuscript previous limitations', errors', and omissions' rectification. Other than some tools mentioned in data collection technique, case study is also considered with respect to one of the Asian countries where industry institute interaction has been successful and tries to relate the findings with respect to Oman

#### 4 INHERENT BASIS OF COOPERATION

History has seen two different verticals growing between industry and institute, which clearly shows the perception in which both the domains are looking into. As we can see in Figure 2, Education mainly concentrates at the basic learning skills of students making sure that they are grown technically and developed mentally making them learners at any stage, whereas industries expect the workforce with perfect skills and knowledge and contribute to the demands of the clients directly and be ready in the real world problem solving. situations.

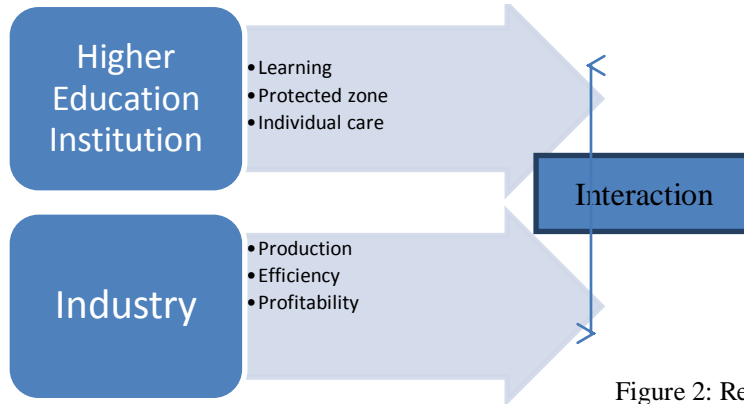


Figure 2: Relationship

So, there is a wide gap in which these two verticals are looking resulting a difference in the institute outcomes and industry expectations. So, it's very important for the industry and institute to go hand in hand creating a dais to share having matching outcomes and expectations. The main objective of interaction should be to plan the perfect curriculum and the skill development and training needs of the industry to be put into the institutional framework. If we look in a broader angle, institutes concentrate on facilitation right from improving learning skills addressing their needs with at most care on a individual basis having less eye on reality. Their goals will be more student centric with respect to their psychology. Whereas, industry works with a complete different setup and the concentration will be more on efficiency and the profit (at the end of the day – success of a business is measured with this attribute). So, the expectations will be very realistic and they expect the same from the institutes output. The expectation of industries is very straight forward, they expect fast adaptability which makes industry institute interaction very critical

#### 5 OBJECTIVES (I.I Interaction)

So, looking at the inherent basis of cooperation, A perfect interaction model between institute and industry is the need of the hour to make sure that the common best practices are adapted lowering the gap between learning outcomes and industry expectations, so that the ever changing technology gets adapted as it gets invented making graduates ready for the industry making them professionals in a less time. This interaction not only bridges the gap but also assures quality making sure that industry needs are considered in delivering the courses in turn helping every stakeholder of the nation. Interaction on a regular basis helps institutes to learn from the technological advancements of the industry from time to time and also dynamic changes in the requirements of clients making students ready for the actual happenings, fitting perfectly to industry expectations. So, the teaching-learning process will directly benefit from the experiences of the industry right from designing the curriculum to including the on-job-training activities. It also helps in improving the practical part of the

courses making sure that student get the proper knowledge and skills needed by the industry in implementation. Industry will also be benefitted with the interaction as they have to spend less time in training the new recruits, as they will be more familiar with the job environment and industrial expectations helping the industrial process go smoother.

## **6 NATURE OF INTERACTION**

The result of globalization and changing economic conditions of all the countries in Asia and gulf push towards the internationalization of higher education making sure that every higher educational institution adopt some initiatives helping themselves to get internationalized. So, industry institute interaction is one such initiative which helps every angle of academia to face globalization. The advantage of institutes is the strength of the knowledge resources who are research oriented in innovating new ideas helping the world becoming a better place to live. So, the approach (II Interaction) can be better utilized by realistic industries which actually help in giving these innovations a shape. Depending the geographical area and culture, Industry –Institute linkages are viewed in different angles. But the ultimate idea is to bridge the gap between the industry and institute helping the nation grow in a right direction with optimum utilization of the resources available and go from a developing to a developed stage. Higher Educational institutions and enterprises as part of their corporate social responsibility should think of the ways of interactions in the interest of every stakeholder of the nation resulting in efficient and economical approaches. Few of them are

### **6.1 Problem solving interaction**

The need for the latest technologies and technical capabilities to employ in the industry needs a strong and continuing process of reviewing the landscape of greater productivity through research and development (R&D) approaches. Enterprises can look for collaboration with institutes for the execution of real world problems using the knowledge base of institutions and by sponsoring and funding the research and development wing of the HEI. Every country wants to be ready for globalization and achieving this is not possible without industry institute interactions, because they are considered to be the pillars of every economy. So, the transfer of knowledge between industry and institute and vice versa is very important so that real time projects can be solved with the expertise and R&D can be given a new meaning utilizing the practical manpower of the industry and the research base of the institute. The interaction becomes critical because of the dependability factor as a good efficient and economical solution in solving the problems can be given better with II Interaction. Institutes can take up consultancy work helping the industries run better giving away the best processes to be followed and at the same time financially supporting the institution itself and also sharing the real time projects with students in implementing them. Industries in turn can benefit from the expertise with proper collaboration for sustainability and in getting the right workforce. So, the concept of problem solving interaction is very much needed for both the industry an institute because of the direct benefits we see. Institutes can really benefit from the industry's sophisticated infrastructure to test the research done and make sure it can be used to go for internationalization of higher education. Innovation, being a common word around in the world for sustainable existence can be possible only with the successful cooperation between industry and institute.

### **6.1 Curriculum development and teaching and learning system**

This is the area which seriously affects the institutions and industry to mould themselves better achieving the respective goals. Involving industry in curriculum design and in enhancing teaching processes and in changing the practical view of the course in teaching could really help bridge the gap between expectations. It really serves as a platform where the actual interaction takes place because students go through this curriculum and their skillset will be built based on this, and institute can be sure of producing the desired output of the industry. Regular interaction on curriculum planning is very much important because of the dynamic nature of the technology and increasing demand change of the clients. Regular feedback helps an institute change the teaching methodologies and the intensity in which curriculum is designed and taught resulting in making the students lifelong learners and reach the expectations of industries. A sound interaction between institute and industry helps in strengthening the existing courses, gives a chance to introduce new courses designed with institute and industry inputs and also helps in introducing the special specific courses according to the industry needs making students ready for immediate employment. This initiative also helps institutes offer community development courses so that the whole community gets benefit from the institute an industry. Institutes can be up to date with respect to the trends in industry and make sure that everybody gets the right knowledge.

### **6.3 Scholarship and placement**

This kind of interaction starts right form sponsoring courses by industries to conducting job fairs. Industries can offer financial assistance for setting up few special courses which they need in particular as part of their corporate social responsibility or they can also sponsor the whole specialized program according to the need and recruit the graduates directly. In developing countries, it's a common trend of sponsoring few courses, or fully funded master courses specific to the industry expectations. In India, it's a common practice to have agreements between the local industry and the institute to provide financial assistance to the graduates or post graduates if they join specific courses sponsored by the industry. The direct result of industries investing in institutions is getting the right workforce which they can grab by conducting regular job fairs attracting the best talent inturn giving them employment. This is a cyclic process where the feedback of the recruited employees can be taken into consideration for the review of the course and the curriculum and making it better. Industries can also set up in-house training centers or development centers in the institute where they can execute the projects by using the knowledge base together. It's a successful initiative in Asian countries to have incubation centers by the industries in the university to nurture the talent.

### **6.4 Industrial Tour and Study Visits**

Exposing the future workforce to the actual field work, industrial environment, state -of-the-art science and technology adapted in machineries and equipment operations and industrial practices provide ways to relate classroom theories with actual industrial experiences at the cognitive level of the students. (Majumdar 2008). These regular visits help students to understand the real scenario happening in the industry which helps them to connect the knowledge with implementation. One of the direct benefits of industrial tour is the real exposure; students get which will ease the learning process making learning fun. The practical depth of the knowledge can better be given a perfect shape with a visit to the industry and learning the process there. A common practice followed in almost all Asian countries are the study visits every semester bridging a different kind of gap between a student's understanding about a specific concept and the real happening. . This paper will focus on a case study which will speak more about this entity.



### **6.5 Faculty and Staff exchange**

The latest technological advancements and the processes adapted in the industries should be updated by the faculty as they are the source of knowledge for students. Faculty exchange between industry and institute is very critical as teachers can reach out to every level of students, making them realize the actual advancements with respect to the course. Industry sponsored trainings are already famous in developing economies which are really helping to reach a greater base, helping maximum number of students getting exposed to the industry expectations. The acquisition of actual field experiences by technical teachers aids in skills formation and facilitation of the learning process. One of the best practices derived from Indian I -I interaction system is the train- the trainer programs offered by the industry which facilitates the teachers to make sure that they deploy the industry needs to the students. On the other hand, people from the industry also benefit from the exchange through their increased access and exposure in applied research, academic and management approach by teachers and institutes which provide new ideas for product innovations.

### **6.6 Industrial apprenticeship**

The importance of education as a strategy in skilling the future workforce for industries is vital, as industry training is inextricably linked to industry practices (Fien et. al.: 2008). According to Wikipedia Apprenticeship is a system of training a new generation of practitioners of a structured competency a basic set of skills. Apprentices are set a strict training program so they can gain a set of skills to prepare themselves for their desired trade or certain career in which they wish to pursue. Australian Apprenticeships encompass all apprenticeships and traineeships. They cover all industry sectors in Australia and are used to achieve both 'entry-level' and career 'up skilling' objectives. In India, the government was proactive in making this initiative work for making employment productive. On the job training is one of the kind of apprenticeships followed in many countries with shared financial assistance. Government and private sectors can come to a common platform and agree on some schemes with shared financial burden making sure that every student can be shaped as a professional so that he can be ready for employment in public or private sector. Apprenticeship training has become an effective industry-institute interaction scheme and is governed by certain government policies that mandate industries in cooperation with government agencies, to share the cost on trainings. India, being a very fast developing economy, this apprenticeship has been successful in making sure that a student from the college gains the real industry culture and can be utilized later in any government or private sector. Countries where population is growing at a faster pace, this industrial apprenticeship plays a crucial role in bridging the gap between employment rate and skill building. There are examples of so many programs in Asian countries which are offered both in institute and industry.

### **6.7 Incubation center**

In the context of globalization, every country is revamping its higher education institutions to internationalize themselves. As part of this, one initiative which every economy feels critical is setting up of incubation centers in institutes in partnership with industry for gaining access to modern infrastructure, processes, finance and market status. In this context, institutes can really get benefit from the programs designed to support the successful development of entrepreneurial skills through an array of business support resources and services, developed and orchestrated by incubator management and offered both in the incubator and through its network of contacts. IT especially will be more practical and students can really get the

taste of real time development of software and get thorough knowledge of software engineering through this incubation centers. Incubation, as in technical development, facilitates concepts, research or laboratory process, helping the students makes sure they know the real process of implementation. Innovation gets highlighted with this type of setup and students will have more access or freedom towards proving themselves with their creative ideas. Almost every good university in india has set up incubation centers which they use right from skill building to raising entrepreneurship.

### **7 IS Interaction critical?**

The complexities at the work place brought about by the rapid technological changes, paradigm shifts in education and training and the growing demand for skills training, call for harmonized efforts to reverse the acute skills shortage in many developing countries.(Majumdar2008,2010). Internationalization of higher education to face globalization is considered to be the key area of consideration with all ministries related to education. This is possible only when Industry institute interaction is at its peak going hand in hand at every level. Asian countries are bit ahead in this by looking at a perfect alignment in the strategic plan of higher education and industrial development so that the gaps can be better filled and executed. The challenge which the entire world is facing is the dynamic nature of technology and industry expectations which makes Industry interaction critical and essential. Innovation as we discussed in few contexts above is the need of the hour to be sustainable and this innovation can be more practical only when industry institute interaction is considered critical. So, it has become very much important to make sure that industry and institute should go together to get the results from every angle.

### **8 CASE STUDY**

**(Maximum source from [campusconnect.infosys.com](http://campusconnect.infosys.com))**

The nature of interactions mentioned above show, how critical it is to have interaction between industry and institute in this globalized society trying for internationalization of higher education. There are many examples of successful experiences to be learned from developing countries especially from the Asia-pacific. One such amazing case study which really changed the view of industry interaction in India can really be a lesson to be adapted by any country looking to bridge the gap between industry and institute. Lets start with a small introduction of a multi-national company in india called as Infosys with a tag line of “powered by values and driven by intellect”. Infosys Technologies limited (Infosys) is a global leader in consulting, technology and outsourcing solutions. As a proven partner focused on building tomorrow's enterprise, Infosys enables clients in more than 30 countries to outperform the competition and stay ahead of the innovation curve. With US\$8.095bn in LTM Q3 FY14 revenues and 158,000+ employees, Infosys provides enterprises with strategic insights on what lies ahead. They help enterprises transform and thrive in a changing world through strategic consulting, operational leadership and the co-creation of breakthrough solutions, including those in mobility, sustainability, big data and cloud computing. Infosys as part of its social responsibility launched a program called as “Campus Connect” basically working on bridging the gap between industry and institute. Engineering and management institutions are the natural bedrock for Information Technology (IT) talent in the knowledge economy. As India moves towards becoming a true global leader in IT, these institutions and the IT industry have realized the need to scale up industry-ready quality students to meet the growing demands of the industry. However there are impediments which cause a disconnect between the demands of the IT industry and the skills of fresh engineering and management



graduates. Infosys understood that institutions require active collaboration and support from the IT industry to realize common goals. As a primary stakeholder in creating a vibrant talent pool of future engineering graduates, Infosys launched Campus Connect (CC), in May 2004, a first of its kind Industry-Academia interaction program. CC aims to be a forum where some of the best practices at Infosys can be shared with institutions. CC also looks at aligning the needs of institutions, its faculty and students, with those of the IT industry. The main objective of CC is to evolve a model through which Infosys and academia

- Can Partner for competitiveness
- Can enhance the pool of highly capable talent for growth requirements in the IT space
- Can enhance the quality of IT education

CC equips students not only in computer science and software engineering, but also helps them apply their learning to practical situations, with special emphasis on teamwork, project management, cross functional networking and effective communication. Several components are weaved together for effective, fast-paced learning: Conclaves, Road Shows at Institution Campuses, Faculty Enablement Programs, Industrial Visits for Students and Faculty, Foundation Program Roll-out, Seminars and Workshops on Campuses, Programming Contests for Students, Sabbaticals, Technical Events and Research Paper Sponsorships, Soft skills for students and faculty. The result is the straight away increased the percentage of skilled output according to many of the surveys done. Following this, many other corporates from every sector launched their own interface ideas which resulted in setting right from sponsored courses to incubation centers in the universities. As a result the direct beneficiary is the NATION itself.

## 9 CONCLUSION

The discussion happened above with respect to industry institute interaction (I-I) made very clear that it is the best way of internationalizing the system of higher education and get ready for globalization and be sustainable for future. The dynamic nature of technology and the rising demands of the global society is forcing every nation to seriously think about it and especially OMAN being on the verge of change in internationalizing itself, I-I is a serious initiative to think of. Every higher education institution should include enough action points in its strategic plan to make sure that I-I is considered as an integral part in devising its action goals. The ways of interaction discussed above right from problem solving interactions to setting up incubation centers are the best possible ways which have been successful in almost all developing economies helping them to go towards developed stage. Institute mainly considered to be supplying manpower can do wonders beyond that and be very much helpful in research, solving the uncertainty of the real world problems and can also take up consultancy in improving the process of production or development. In the same line industries can also be seen in a different angle doing much more than expected and as part of their corporate social responsibility, they can directly contribute in modernization of higher education in turn helping the nation to have sustainable development. Oman at this stage should be serious in considering II-Interaction at every stage in every angle involving industry right from strategic planning to implementation. The quality assurance agencies which are responsible for accreditation should also focus their assessment strategies oriented towards this interaction. So, at the end of the day interaction leading to partnership should be the main goal or focus by any higher educational institution or industry to achieve sustainable development.

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