MAKING INDUSTRY-ACADEMIA INTERFACE WORK BETTER FOR FILLING THE SKILL GAP: AN EMPIRICAL STUDY WITH SPECIAL REFERENCE TO MANAGEMENT EDUCATION

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Abstract

The most important quality parameter in Indian B- schools is placement. Placement is an approval on the quality of students. It somehow confirms that the B-school's students are ready to serve industry. However, many a times it has been observed that by the industry that even after selecting the best manpower from the best B-schools there remains a gap in the set of attitude, skills and knowledge desired by the industry.

Academia- Industry Interface could be defined as interactive and collaborative arrangement between academic institutions and business corporations for the achievement of certain mutually inclusive goals and objectives. To make them work better proper analysis of objectives etc. should be analyzed in a proper manner considering all the desired aspects in mind. Academics and industry should keep aim, content, method, execution and evaluation of these programmes in a proper manner.

The present study is descriptive in nature. A sample size of 200 was taken (100 academicians and 100 industry persons). Data has been collected with the help of a structured questionnaire. Mean, t-test and multiple regression were applied to analyze and interpret the data and it was found that there is a need to make industry-academia interface a mandatory part of the course curriculum. There is a lack of funding by industry to academia and there is also a lack of industry participation in Faculty Recruitment.

Keywords: Placement, Skills, Industry- Academia Interface.

Introduction

The Success of higher education system can be assessed by employability of the students in the real world scenario as compared to the marks scored in university exams (Tiwari & Anjum). It is an approval on the quality of students and B-School. Placement confirms that the B-school's students are ready to serve industry.

Many a times Industry finds the gap in the set of, skills, attitude and knowledge desired by them in the fresh students even they have been selected best B-School. In such a case industry has to work a lot on the students which becomes a costly affair for the corporate. In such a competitive environment industry prefers to recruit form those b-schools who impart such education which already contains desired skills for a business professional. The list of these skills is not exhaustive; however some of them may be listed as - negotiation, leadership, team building, team management, communication etc.
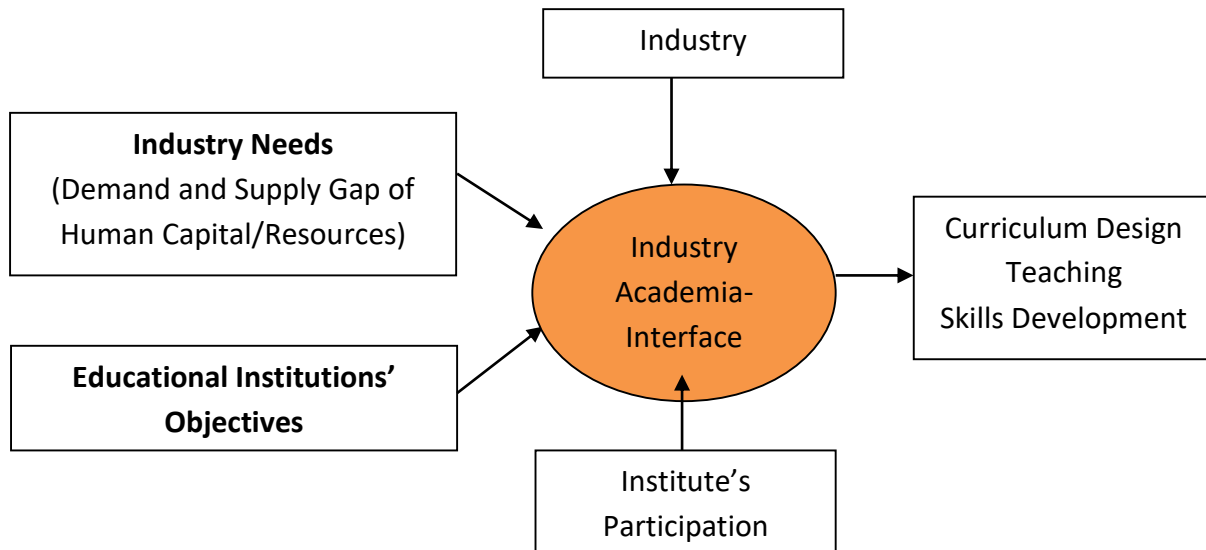
This is widely accepted truth that 'skills gap' may be filled with the help of industry academia interface. This paper mainly discusses about the various kinds of industry academia interfaces and the tactics to make industry academia work better to fill the skills gap. Here, the basic assumption is that when industry and academia come closer to each other, it creates an opportunity for skills development for the students.

Academia - Industry Interface could be defined as interactive and collaborative arrangement between academic institutions and business corporations for the achievement of certain mutually inclusive goals and objectives.

1. Popular Industry Academia participations
2. Industry-Academia Interaction through guest lectures, seminars and conferences
3. Industry mentors for students
4. Industrial visits
5. Participation of Industry Experts in Curriculum designing
6. Shared Projects and Consultancy
7. Establishment of Incubation center with industry partnership

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                    │  Industry   │
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┌──────────────────────┐       ╭───────────╮       ┌──────────────────────┐
│   Industry Needs     │──────▶│ Industry  │──────▶│  Curriculum Design   │
│ (Demand and Supply   │       │ Academia- │       │      Teaching        │
│ Gap of Human         │       │ Interface │       │  Skills Development   │
│ Capital/Resources)   │       ╰───────────╯       └──────────────────────┘
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┌──────────────────────┐            │
│ Educational          │────────────┘
│ Institutions'        │     ┌─────────────┐
│ Objectives           │     │ Institute's │
└──────────────────────┘     │ Participation│
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Source: Author's Work

Figure 1 Industry-Academia Interface (IAI) and Participants

Figure 1 shows the participants of industry academia interface. There are certain needs of the industry which are addressed by the academia such as Demand of human resources or human capital. Similarly Educational institutions have their own objectives. These objectives may be imparting quality education, placements and growth and these needs are fulfilled by the industry. Hence to understand each other better and to help each other, both meet at a platform which virtually named as Industry academia interface. Industry usually contributes in curriculum design, skills development and during teaching-learning process in the form of industry mentorship etc.

There have been a numerous discussions on the aspect of making industry-academia interface work better. A large number of studies have also been carried out on this aspect by industry and academia. Roy (2015) stressed up on addressing the following points for better Industry-Academia Interface:

- Openly discuss intended benefits, requirements and risks for both partners.
- Consider which mode of collaboration optimally fits joint objectives.

- Retain full transparency within the academic research group about the terms and conditions of the collaboration
- Build relationships grounded in mutual trust and respect; acknowledge and celebrate successes, learn from mistakes.

Roy (2015) found that it is widely recognized that interaction of industries with the knowledge base of academic science is very important for the advancement of technology. Rastogi (2001) blamed the lack of orientation and training of the young recruits who learn by trial and error for the poor quality of higher education. Edmondson et. al (2012) recommended the following for an effective Industry-Academia Partnership:

1. Keep the ship steady
2. Give universities the autonomy to operate effectively, and form partnerships
3. Reward activist, collaborative universities – and encourage more to be that way.
4. Help universities strive for excellence.

Tiwari and Anjum (2015) studied the role of industry-academia and found that poor industrial exposure along with weak industry collaboration is a challenge to be addressed

timely. Public universities should attract industry experts in the teaching assignments to improve the percentage of faculties with industrial exposure.

2. Objectives of the Study

- To find out the important activities being practiced under Industry Academia Interface in the Indian B-Schools
- To find out the factors that significantly affect the effectiveness industry academia interface programme

3. Methodology

The present study is Descriptive in nature. A sample size of 200 was taken (100 academicians and 100 industry persons). Data has been collected with the help of a structured questionnaire. Mean, t-test and multiple regression were applied to analyze and interpret the data and it was found that there is a need to make industry-academia interface a mandatory part of the course curriculum. There is a lack of funding by industry to academia and there is also a lack of industry participation in Faculty Recruitment. Response Rate was 91% (182 questionnaires were found complete and valid for the study). A purposive sampling

was used to collect the data wherein It was taken care that only those respondents fill the questionnaire who were directly involved in any of the industry academia interface activity.

4. Findings and Discussions

4.1 Demographic Profile and General Information of the Respondents:

Table 1 Gender

Gender	No. of Respondents	% age
Males	129	70.88
Females	53	29.12%
Total	**182**	**100**

From table 1 it is found that around 71% of the respondents were males and 29% respondents were females.

Table 2 presents the Age profile of the Respondents. Maximum respondents belong to the age category of 30 to 45, viz. around 47% followed by the age category, Above 45 (around 36%) and lastly the age category below 30 (around 18%)

Table 2 Age

Age	No. of Respondents	% age
Below 30	32	17.58
30 to 45	85	46.70
Above 45	65	35.72
Total	**182**	**100**

Table 3 Industry of Respondents

Academic/Industry	No. of Respondents	% age
Academics	91	50%
Industry	91	50%
Total	**182**	**100**

As per the table 3, equal numbers of respondents were there in the sample from Industry and Academics.

Table 4 Core Area/Subject Area

Core Area	No. of Respondents	% age
Finance	32	17.58
Marketing	42	23.08
HR	36	19.78
Information Technology	39	15.93
General or Others	43	23.63
Total	**182**	**100**

Table 4 presents the core areas or subject areas of the respondents. There was almost equal representation from all the areas. Maximum no. of respondents belong to the General or Other areas (23.63%), closely followed by Marketing (23.08). 19.78% were from Human Resource, 17.58% were from the Finance area and lastly 15.93% were from the information technology area.

Table 5 Sector wise distribution

Academic/Industry	No. of Respondents	% age
Public	70	38.46
Private	112	61.54
Total	**182**	**100**

As per table 5, there were 38.46% respondents who were from Public sector and there were 61.54% who were from the private sector.

4.2 Activities conducted under Industry Academia Interface:

This section will analyze the magnitude of the activities conducted under the industry academia interface. Data was collected on a five point Likert scale. Mean and t-test have been used for the analysis of data:

Table 6 Mean value and t-test Results of the Activities Conducted by Institutions under Industry Academia Interface

SL. No.	Statements	Mean	p value for One Sample t -test (3)
1	Guest Lectures	4.35	.000*
2	Project Mentorship including Internship	4.11	.000*
3	Joint Research Projects (Faculty-Industry)	3.50	.000*
4*	Curriculum Development	3.08	.691
5	**Selection/Recruitment of Faculty**	**1.30**	**.000 (-)***
6	Industrial Visits	4.18	.000*
7	Industry Mentors for the Students (except internship)	3.26	.026*
8	Incubation Center with Industry Partnership	3.14	.049*
9	**Financial Support from industry for Academic Activities**	**2.14**	**.000*(-)**
10	Industry participation in Board of studies	3.88	.000*
11	Executive Education Programmes	3.95	.000*
12	Consultancy	3.74	.000*
13*	Joint Community Services	2.94	.712

As per the table 6, it is found from the analysis that the Guest Lectures are the most popular IAI activity conducted by the b-schools (mean value 4.35) followed by Industrial Visits and Project Mentorship including Internship with a mean value of 4.18 and 4.11 respectively. Executive Education Programmes and Industry participation in Board of studies are also popular activities (mean value 3.95 and 3.88 respectively). Consultancy has got bit lesser value still it is popular among the premier B-schools (mean value 3.74).

- *Null Hypothesis: The IAI activities are carried out to the satisfactory level in institutions*

Alternate Hypothesis: The IAI activities are not carried out to the satisfactory level in institutions

One sample t-test with a test value of 3 was applied to find out the significance of each of the activities. Out of the 13 activities carried on under Industry - academia interface the results of t-test shows that the value of 9 activities are positively higher than the test value. Hence it may be concluded that 9 activities have been carried out to the satisfaction level of the respondents.

T test results are neutral on two activities namely Curriculum Development and Joint Community Services as the mean values are very close to the test values. For rest of the two activities the t values are negative hence their mean values are significantly less than the test value. These activities are Financial Support from industry for Academic Activities (Mean Value 2.14) and Selection/Recruitment of Faculty (Mean value 1.30).

Referring the results of t-test shown in the table 6, it may be concluded that for 9 statements the null hypothesis has been rejected and it was found that the IAI activities are carried out to the satisfactory level (the significance value of t is below .05 for these statements).

Further, the statements for which significance value is above .05, or it's below .00 but the mean value is less than 3 then the null hypothesis have been accepted (a negatively rejected null hypothesis is considered to be accepted).

Overall the analysis shows that most of the Industry-Academia Interface activities have been conducted in a sufficient quantum (most of the t-test results are significant on a test value of 3).

Most of the academic activities are an integral part of the Management / Business education curriculum. There is a serious lack of industry participation in recruitment. There is also a lack of financial support from industry for academic activities.

4.3 Factors that significantly affect the effectiveness industry academia interface programme

There are many factors which affect the effectiveness of the industry academia interface programme. Here Multiple Regression Analysis is applied to find out the significant variables.

Following are the prerequisites of MRA such as data should be Metric (here the data is on 5 point Likert scale), Residuals should be normally distributed and No or little multicollinearity etc. All these were checked before deriving the conclusions.

Regression Model (DVs and IDVs)

Dependent Variable: (1 variable)

"If all the above points are addressed, how much the IAI be effective in your opinion consider the current academic and industry scenario" (Respondent on a 5 point scale where 5 is Effective and 1 be Ineffective)

Independent Variables: (11 variables)

Top Management Attitude, Well defined Objectives of Industry and Academia, Individuals' Initiatives, Regular Assessment of Activities, Optimum fit and fulfillment of joint objectives, Full Transparency between I and A, Exclusive training to people involved in IAI, Regular meetings of Industry and Academia, Incentives to IAI participants over and above Salary, UGC/ Government Policies making IAI activities Mandatory and Participation of Industry in Faculty Recruitment.

Table 7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.893(a)	.797	.770	.51185

a = predictors

As per the table 7, the value of R square and adjusted R Square tells the % of variance explained by the independent variables of dependent variable. Here the value is 77% hence the model is robust.

Table 8 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.677	11	3.099	11.827	.000 (a)
	Residual	21.483	170	.262		
	Total	74.160	181			

Table 9 Multiple Regression Analysis Results

Dependent Variable:	Unstandardized Coefficients		Std. Coeff.	t	Sig.
	B	Std. Error	Beta		
Constant	1.496	.370		4.043	.000
Top Management Attitude	.351	.099	.453	4.520	.000
Well defined Objectives of Industry and Academia	.320	.060	.466	5.367	.000
Individuals' Initiatives	.131	.105	.147	1.245	.217
Regular Assessment of Activities	.414	.090	.650	4.588	.000
Optimum fit and fulfillment of joint objectives	.163	.080	.214	2.049	.044
Full Transparency between I and A	.219	.064	.340	3.446	.001
Exclusive training to people involved in IAI	.018	.081	.026	.225	.822
Regular meetings of Industry and Academia	.022	.059	.029	.367	.715
Incentives to IAI participants over and above Salary	.333	.069	.349	.480	.000
UGC/Government Policies making IAI activities Mandatory	.230	.083	.243	.367	.014
Participation of Industry in Faculty Recruitment	.166	.062	.248	2.689	.009

As per the table 8, referring the column significance it is found that the following 8 variables have positive impact on the dependent variable viz. **"If all the above points are addressed, how much the IAI be effective in your opinion consider the current academic and industry scenario"**:

Top Management Attitude, Well defined Objectives of Industry and Academia, Regular Assessment of Activities, Optimum

fit and fulfillment of joint objectives, Full Transparency between I and A, Incentives to IAI participants over and above Salary, UGC/Government Policies making IAI activities Mandatory and Participation of Industry in Faculty Recruitment

Three variables namely Individuals' Initiatives, Exclusive training to people involved in IAI and Regular meetings of Industry and Academia have no significant impact on the dependent variable. Hence the 8 variables which have significant impact may be further used to make the Industry Academia Interface better for skills development of the students in the b-schools.

5. Conclusion and Implications:

An effective industry academia interface is the demand for making students effective and fulfilling the skills gap. Industry always works on the fresh management graduates by giving them suitable trainings to fill the skill gaps. An effective IAI will not only reduce the efforts of industry but will also provide better employability to the management graduates.

The study has some consistent results with the other studies carried out earlier on Industry Academia Interface e.g. (Rizvi and Agrawal, 2005). The study gives significant inputs for academia and industry such as attention on optimum fit on joint objectives and incentives to participants of IAI. The present study also finds and highlights the major activities which are being practiced by institutions under Academia and Industry.

References:

1. Aggarwal A., Rizvi I.A & Popli S. (2004), "Global Branding of Business Schools: An Indian Perspective", Welingkars Research Journal, Volume II, Issue-4, pp 2-31.

2. Dubhashi P.R, 1992, Rethinking the University Set Up: Take Care of the Fundamentals, University News, Vol.30 (42), pp24-28

3. Edmondson et. Al (2012) Making Industry-Institution Partnership better- Lessons from Successful Collaborations. Science Business Innovation Board.

4. Gopal R, 2010, "Towards an Educated India: Academia-Industry Partnership", retrieved 18th October 2012 from http://www.highereduforum.org/hef4.pdf

5. Rizvi, I.A., Aggarwal A. (2015), 'Making Academia-Industry Interface work', Ninth Quality in Higher Education International Seminar in collaboration with ESECT and The Independent. Birmingham 27th-28th January 2005.

6. Tiwari, R., and Anjum, B. (2015) Industry Academia Collaboration: Relevance For Make In India, International Journal Of Business Management, Vol 2 (1). Chandigarh Group of Colleges Mohali.

7. Tiwari, R., and Anjum, B. (2014), "Industry Academia Interface: A Study Of North Indian Universities" International Journal Of Marketing, Financial Services & Management Research, IJMFSMR, Vol.3 (7), JULY (2014), pp. 139-146