

## **Industry Academia Collaboration: Relevance For Make In India**

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### **Abstract**

The paper evaluates the industry academia interface in private and public universities of India for success of Make in India. The Make in India program is a bold step of the government to improve manufacturing sector. The policy can become a source of economic growth, provided skilled manpower is available to convert the dream of Make in India into a reality. The role of industry academia collaboration becomes important to improve the employability of students for Make in India program. The primary data for the study is collected through questionnaire from teachers of public and private universities of north India. The factor analysis is used to identify the important determinants of industry academia interface and descriptive analysis is used to compare the private and public universities. The paper concludes by providing recommendations for enhancing the industry academia interface for contributing in Make in India program.

**Keywords:** Make in India, Industry Academia Interface, Skilled Manpower, Universities

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### **Introduction**

Make in India program was launched by Prime Minister Mr. Narendra Modi in September 2014. The program is aimed to develop manufacturing sector. The manufacturing sector contribution has remained 15% of GDP. It is maintained at the same level since 1980. On the other hand the share of manufacturing sector in other economies in Asia is 25-34% (DIPP, 2011). The backend support for Make in India will be provided by Invest India, which is a joint venture of Federation of Indian Chambers of Commerce and Industry, department of industrial policy and promotion



of central government and state governments, each holding 0.5% share (Quartz, 2015). A separate web portal [www.makeinindia.com](http://www.makeinindia.com) has been developed to answer the queries of investors (narendramodi.in, 2014)

The national manufacturing policy targets to enhance the share of manufacturing sector to 25% by 2022 and create 100 million jobs (DIPP, 2011). The make in India will also ease approval process and make it easy to get the clearances. India ranks 142<sup>nd</sup> in ease of doing business, the government aims to bring it in top 50 (The Hindu Business Line, 2014).

India is a country with a relatively young demographic profile. 65% of the population is below 35 years of age (Virmani, 2014). The average age of Indian citizens would be 29 as compared to 37 in China (Quartz, 2015).

The demographic advantages can be used to accelerate economic growth of India by encouraging manufacturing sector. The Make in India will create jobs, and industry academia collaborations will enhance the employability of the graduates to provide the required skilled manpower to realize the investments coming in Make in India into successful enterprises.

### **POOR EMPLOYABILITY & FACULTY SHORTAGE:**

National Employability Report by Aspiring Minds found that 47% graduates are not employable in any job (Aspiring Minds, 2013). The poor employability can be attributed to acute shortage of good quality faculties. It is estimated that the 0.35 million shortage of faculties in 2012 will increase to shortage of 1.38 million by 2020 (Technopak, 2011).

The faculty shortage is further worsened by poor industry exposure of faculties in higher education leading to poor industry academia collaboration. According to AICTE-CII Survey of Industry-Linked Technical Institutes 2013, only 1% technical institutes are engaged in consultancy work or research projects for industry (Ramya, 2013).

Vice President Mr. M Hamid Ansari commented “The lack of experienced faculty, outdated syllabus and poor infrastructure, especially in technical institutes, is creating hurdle in the expansion of higher education in the country” (youthhindustan, 2014).

## INDUSTRY ACADEMIA COLLABORATION:

Industrial exposure of faculties supports interaction with industry (Khambayat and Srinivasan, 2005). The research focus in India is predominantly academic. The faculties focus on publications in journals rather than applied research in collaboration with industry. Lee et al. 2009 argued both the industry and academia do not give importance to each other.

Integrated approach is required to strengthen industry academia interface to transform India a hub for research and development (Nangia and Pramanik, 2011).

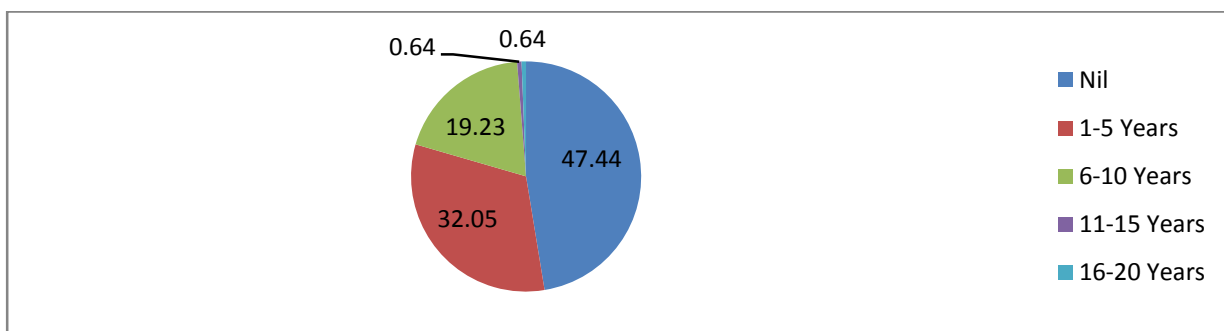
## RESEARCH METHODOLOGY:

The descriptive approach is used in the study. The primary data was collected through a self constructed questionnaire. The respondents were teachers of public and private universities in north India. The questionnaire was analyzed using descriptive, factor analysis using SPSS. An attempt has been made to analyze the differences between private and public universities and the important factors affecting industry academia collaboration.

## FINDINGS:

The industry experience of teachers of private and public universities is mentioned in figure 1 and 2 respectively. It is found that 47.44% of teachers in private universities have no industry experience, 32.05% have industry experience of 1-5 years, 19.23% have experience of 6-10 years, and 0.64% has experience of 11-15 years and 16-20 years.

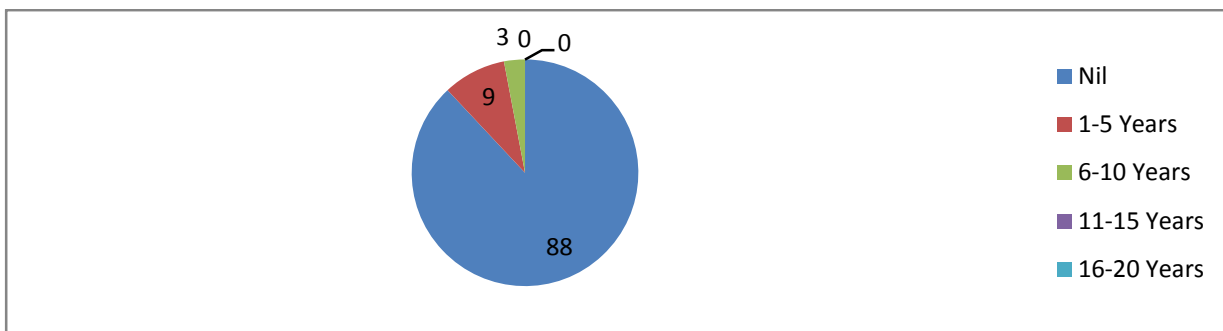
Figure 1: Industry Experience of Teachers in Private Universities



Source: Survey Data

The public universities have significantly large number of faculties without any industry experience. It was found that 88% faculties have no industry experience. 9% teachers have industry experience of 1 to 5 years. 3% faculties have industry experience of 6-10 years, and no faculty with more than 10 years of experience.

Figure 2: Industry Experience of Teachers in Public Universities



Source: Survey Data

Industry experience in the universities was analyzed with regard to gender. In private universities there was no significant difference between views of male and female faculties in industry academia interface. Both male (mean 3.98) and female (mean 4.08) faculties were agreed that faculties are willing to work for industry academia collaboration. Similar results were found with regard to views of faculties regarding willingness of industry to participate in the industry academia collaboration. Male faculties (mean 3.98) and female (mean 4.05) agreed that industry is willing to enhance industry academia collaboration.

Public universities faculties were also optimistic about the willingness of teachers and industry to enhance industry academia collaboration. Male faculties (mean 4.02) and female faculties (mean 4.01) agreed that faculties are willing to contribute for industry academia collaboration. The male faculties (mean 4.01) and female faculties (mean 3.93) agreed that industry is also willing to collaborate with universities.

Student engagement was found to be a major area of concern. In private universities male faculties (mean 2.67) and female faculties (mean 2.94) was not satisfied with the engagement of students in industry projects. In public universities also male faculties

(mean: 2.94), and female faculties (mean: 2.80) were not satisfied with engagement of students in industry projects.

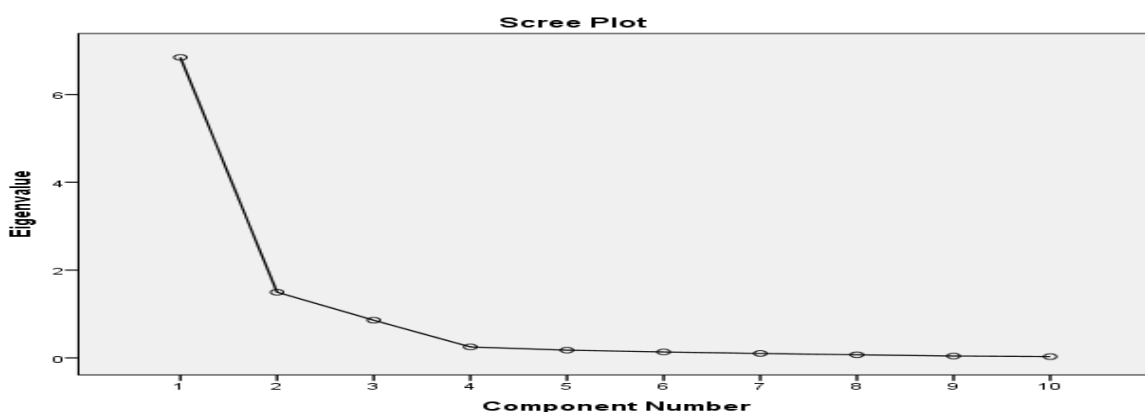
Internship was found as another issue of concern. In private universities male faculties (mean: 3.89) and female faculties (mean: 3.76) were moderately satisfied with internships. In public universities male faculties (mean: 3.64) and female faculties (mean: 3.53) were also moderately satisfied with internships with industry.

The findings provide insight about areas of improvement in Indian Higher Education. The make in India program can succeed if the skilled manpower is available in India. The skill shortages are caused by weak industry academia interface and poor student engagement.

### FACTOR ANALYSIS:

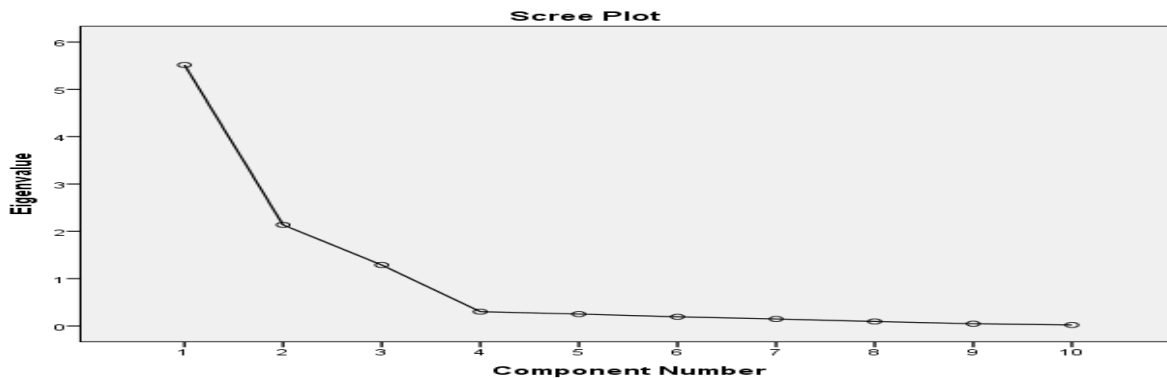
The factor analysis was done to identify the important factors affecting industry academia interface. The principal component factor analysis was done separately for private and public universities. The factors extracted were similar in private and public universities. The scree plot shows the factors extracted for private universities and public universities in figure 3, 4 respectively.

Figure 3: Scree Plot for Industry Academia Interface in Private Universities



Source: Survey Data

Figure 4: Scree Plot for Industry Academia Interface in Public Universities



Source: Survey Data

The factors extracted were collaboration for skill enhancement, collaboration for research, and willingness for collaboration.

The public and private universities faculties have shown similar views regarding industry academia collaboration. Thus it can be concluded that private and public universities have similar expectations and approach for industry academia collaboration.

### **RECOMMENDATIONS:**

1. Revise eligibility norms for appointment of faculty in professional institutions. The executives from corporate world with rich experience should be allowed to join academics as consultant teachers. This will enhance industry academia collaboration and enhance the relevance of the teaching for jobs in industry.
2. Public universities should also provide opportunities for industry experts to join in teaching assignments.
3. Attract experts from industry to jointly teach modules in a semester along with the faculties of the university. This will provide opportunity for faculty to relate the classroom teaching with industry norms and enable industry experts to share the expertise and mould the creative potential of the students to develop solutions to problems under the academic guidance of the teachers of the institute.
4. Make it mandatory for professional students for do real life industry based research.



5. The teaching pedagogy should provide enough space for engaging students in research projects jointly with faculty, industry for solving real life problems or working for new technologies and products.
6. The internship frequency should be increased to two months, three times in a year. Total duration of internships should be six months in a year and six months should be devoted for teaching. The summer and winter breaks should be reduced to one week each.
7. The training and pre placement orientation sessions should be organized in first year itself to give an overview about the job opportunities available in different technology platforms and actual job profiles should be discussed. This will provide the students enough time to prepare themselves for the jobs in manufacturing and other sectors.
8. The industry associations should support the industry academia collaborations by promoting the partnership among member companies. The associations may also sponsor joint research programs by a number of companies together to save cost and provide synergies in the commercialization of the technology to compete against the Chinese and other multinational companies.

## **Conclusion**

The Make in India is a good initiative of BJP government. It will make it easy for foreign investors to get all required information from Make in India website as a first reference point. The start is good by planning to enhance ranking of India in ease of doing business index and to promote India as a global manufacturing hub. The approach of first develop India will ensure that the growth is inclusive and makes a real change in the life of a residents of the country. The supportive regulatory framework will enhance confidence of investors. However the manpower support for Make in India is equally important. The 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. Collaboration for skills enhancement, collaboration for research and willingness for collaboration were identified as the important factors in the industry academia interface. The regulatory framework for higher education should promote industry academia collaboration to improve skills, employability of the graduates. The industry should not be seen as an outsider in the world of



academics rather than as a partner in skills enhancement, research, training and enhancing employability and entrepreneurship.

**ACKNOWLEDGEMENT:** The author acknowledges the support of Punjab Technical University, Kapurthala for the research work.

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