

EXECUTIVE SUMMARY

IMPORTANCE OF THIS STUDY

The correlation between the academia and industry is like donor and recipient. The academia and industry interaction are viewed as a system. The need of academia-industry interaction is massive. All the collaborators such as students, society, institutions and industry are mutually benefitted. The academician's knowledge can also be used for industries in order to enhance industry's cost, quality, etc. Industries can acquire knowledge from domain experts based on development programs which are designed by the academic persons. There is a significant gap between the types of skills and competencies required by industry and those provided by higher education institutions. The engineers who are technically qualified is found out to be excess and they don't have enough job opportunities in the engineering industries. The technically qualified engineers are not feeling comfortable to work with the small and medium scale industries. The presence of conflicts is not allowing to sync between the aspirations of the job seeker and aspirations of the job provider. Therefore, the curriculum in the engineering institutions should be fine-tuned to enhance the skill-set of graduates. Engineering institution should ensure that their curriculum is up to date and that they attract the majority of students who want to work in small and medium-scale industries.

OBJECTIVES

- To identify the reasons for degradation of quality among engineering graduates.
- Providing solutions to reduce the gap between getting of talented engineers and unemployment.
- To mitigate the Lack of knowledge to meet the demand in technical field.
- To create, test, and regulate a questionnaire to assess the gap between academic production and industry need.

- To identify fundamental causes of the mismatch between academic production and industry demand.
- To see whether there are any disparities in the relevance of certain marketable skills as evaluated by industry partners and students.
- To make suggestions for possible remedies to bridge the gap in quality.
- To open up new avenues for future investigation.

METHODOLOGY

Demand and Supply Gap of Quality Electronic Engineers

i) Supply Side:

Engineering as a professional path is increasingly diverse, with a wide range of career options and technological professions available. Engineers are professionals who use scientific knowledge, mathematics, and invention to address technological, social, and commercial problems. Now-a-days, engineers are lacking in skills and morality. Engineers who are strong in academics but weak in skills are rejected in placement interviews. Fresh Graduates choose branded companies over start-ups. Fresher get far more experience at start-ups than large branded firms, start-up demand more originality from graduates. The procedure of assessing an engineer in academic is based on marks achieved in exams, while in corporate, assessments are based on the engineer's performance as per the sort of tasks he has managed and problems conquered.

In India, Engineering education institutes are divided into Central, State, and Deemed universities. Engineers are generated in large numbers due to the availability of opportunities in private universities. University curricula are more theoretical than practical. Some university courses are out of date. The fundamental goal of short-term training programs, which are part of many higher education institutions' curricula, is to provide students with significant practical competence.

Faculties fail to inform students about the real-world applicability of certain topics. The professors are more focused on research and they are unsure how to turn their findings into a product. The outcome is engineering educators are challenged to educate their students for such a wide range of competency standards. As a result, there is a goal conflict between general education and training for particular job requirements, which may be analysed in a multiple way.

Students are lacking in either technical or soft abilities, or both. As a result, universities are deprived of sophisticated and up-to-date information in a variety of subjects. In terms of money, position, and timeliness, students have high expectations from industry. Furthermore, students believe that obtaining a degree is sufficient to land a job.

ii) Demand Side:

Employers choose engineers based on their academics and talents. Employers are very busy achieving their own deadlines for various initiatives in the organisation, therefore they don't have enough time to invest in upgrading the academic curriculum.

iii) Industry-Academia Gap:

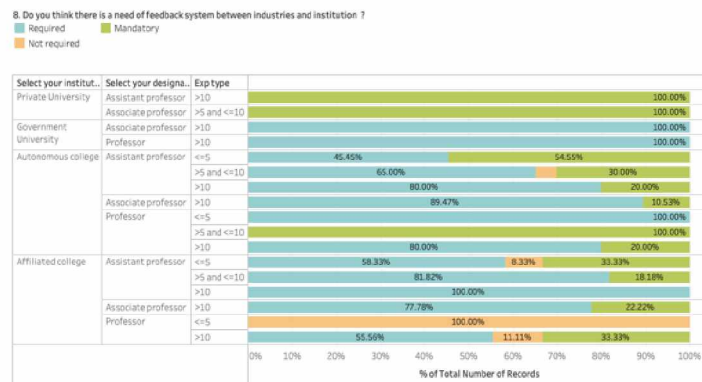
The students are aware of academic syllabus whereas industry requires skill set for particular job roles such as circuit engineer, layout engineer and application engineer etc. There are several vacancies in many companies each year, but companies do not receive job-ready professionals or students who can meet industry standards. Students are interested in understanding industrial requirement and minimum skill requirement from employer.

Industry and academia must have a mutually beneficial relationship because they are inextricably linked with each other. Industry expert's states curriculum used in various universities is outdated. Besides that, faculty members lack industry exposure which is essential to develop the

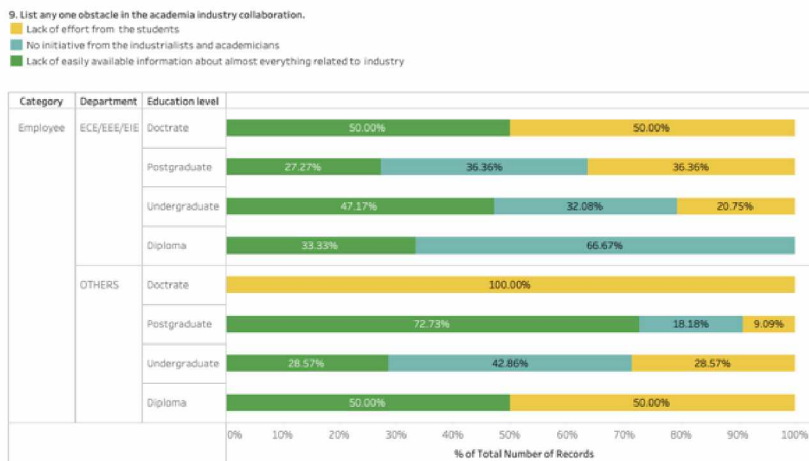
necessary skills in students. Industry and academia should have a symbiotic relationship so that both benefit from one another and have a win-win situation.

RESULTS & DISCUSSION

The survey was carried out on students, job seekers, professors, employer and employees. The data collection was done through online questionnaire. It consists of both open ended and closed ended questions. The closed ended questions are used to analyze the responses easily. The closed ended questions are for unlimited and impulsive perspectives. We have received a total of 533 responses, in which 108 responses from industry professionals, 125 responses from professors, 43 responses from jobseekers and 257 responses from students.



Faculties response on need of feedback between industries and educational institutes



Employee response on obstacle in industry academic collaboration

KEY OUTCOMES OF THE PROJECT

1. Education of high quality should be prioritized.
2. Every engineering student should be offered a job guarantee.
3. Engineering graduates who are unemployed should be compensated monetarily.
4. Those seeking admission to engineering programs should be instilled with confidence.
5. Encouragement of the professional job in the appropriate branch, so that they would be delighted since they have chosen the right group.
6. Encourage new engineers to conduct research so that they could progress in career.

POLICY IMPLICATION

The survey findings should be studied not only to obtain ratings and rankings, but also to learn about, appraise, and evaluate the current situation. If we account for these characteristics, the gap between engineering education and industry will diminish. The corporate environment is extremely competitive, unpredictable, and unclear in multiple ways. The requirement of adaptation to globalization and vertical development, engineering institutions should reach out to the world by providing high-quality technical education. Keeping engineering students unemployed is unhealthy for their families and bad for the economy. Essentially, no country will progress without the assistance of engineers. The procedures that follow will assist to alleviate this awful predicament to a considerable extent.

SUGGESTIONS

1. Class room learning would be an engaging part if theoretical and practical learning were given equal weightage.
2. Internships should not be done for the purpose of documentary work; rather, they should be used to gain experience with real projects.

3. Faculties, who play an important role in encouraging students, should have industrial experience to help students understand way things are done in organizations. Furthermore, the staff must be trained on a regular basis by visiting industries to stay up to date on the recent developments.
4. In colleges, grades and marks determine a student's performance; nevertheless, in industry, a candidate's performance in handling a project and how candidate overcomes is evaluated.
5. Industry academic partnership is essential for institutions to stay current with recent demands for the advancement of student's future.
6. At the entry level, student's mindset is a degree is sufficient to acquire a job must be modified.
7. Making it mandatory for students to be a part of several cells such as NSS, AICUF, and CSI will help them overcome stage fright and inspire them to improve professionally.
8. Alumni associations play an important function; holding frequent alumni meetings would assist students in developing current needs.

RECOMMENDATION:

Majority of professor response states, there is a lack of interaction between industry and academic institution. Students' feedback states that academic education is not sufficient to survive in industrial environment. Industry experts have highlighted a number of factors where academics is falling short. It is observed that, there is gap between demand and Supply of graduates as well as there is degradation in quality among graduates. The participants presented ideas and suggestions for best practices and noted how best has to be done to connect students for more opportunities to gain strong technical knowledge. The suggestions include formal relation between the employer and the university. After reviewing several papers and interviewing individuals, we found that the primary lag is in the educational system. Students are racing for grades, yet they lack skills since the curriculum is outdated. As a result, it is the role of universities to overcome educational problems and devise innovative approaches to bridge such gaps. The educational institutes and industries should take appropriate steps for the happening of interaction between industry experts and faculty members. A regulatory body comprised of experts from industry and academia can be created to continually monitor and identify gaps, as well as to make ongoing attempts to bridge those gaps.