

# Employability of Engineering Students- A Report on the Discernment of the Students and Their Employers

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## Abstract

*Professional education is the need for the hour as companies pursue technologically sound workers and have the ability to support themselves in any kind of evolving market climate. Reform of the education system is required to resolve the disparity between current employability skills and level of competence at executive level. The current study is an effort to examine employers and employees interpretation of employability skills required in MNC software companies for executive level engineering graduates. It is an exploratory research. The paper indicated that there is significant gap between the learners and the aspirations of their job providers.*

**Keywords:** *Employability, Market Climate, Reform, Engineering graduates, Employers, MNC.*

## 1. INTRODUCTION

Bianca K & Peter F. (2004) defined technology as a profession focused at competently enforcing a unique body of scientific evidence on math science and technology, mixed with business administration, acquired through learning and vocational training, in a specific field of study.

Technology aims at the growth, provision and conservation of facilities, products and services for manufacturing sector and society as a whole. Hence, technology graduates should have several expertises to help them efficiently implement the learning in the job. The capabilities are generic attributes and known as employability skills.

Until now, skill training and entrepreneurial programs have also been widely fractured all over the nation. India is reporting an appalling 4 percent of formally qualified labour as against advanced countries, in which proportion of trained work force is around 66 percent and 92 percent of the total manpower. Therefore, there is a need for rapid realignment of the homeland's skill creation and entrepreneurial infrastructure to match industry needs and encourage decent lifestyle for its citizens.

Acknowledging the use and necessity for swift alignment of the energies of all associated entities in the zone of skills training and enterprise, the Government of India approved on 31 July 2014 the establishment of the Department of Skill Development and Entrepreneurship in conjunction with those the requirements of market. Consequently, the department was promoted to a fully blown Ministry of Skill Development and Entrepreneurship on 9 November 2014. Higher education institutions are therefore exhibiting a genuine concern in developing employment prospects and are implementing the concept of an employability appraisal to identify and plug discrepancies from the first year onwards.

## 2. Review of Literature

Aspiring Minds (2019) did analysis of engineer's employability. Indian engineers' employability remains shockingly poor with over 80 % of engineer's unemployed for any job in the information economy, Aspiring Minds' National Employability Study indicates. They observed that only 3.84% of professionals

were attractive to employers for the information services market. In fields such as AI, Machine Learning approximately 3% of engineers have new-age skills.

Mohapatra Manolisa et al. (2019) highlighted that there is huge gap between skill set possessed by graduates and employers expectation. So in order to fill this gap, the authors suggested need of educational reforms.

Bansal Ajit (2018) had concluded in his study that in order to offer world class education to management students, the institutions of higher education should improve upon their syllabi and introduce innovative, industry specific teaching pedagogy.

Tinashe Harry et.al.(2018), in their study have examined determinants job prospects in rural south African university among learners in educational institutions. They concluded that decision makers should frame educational policies in such a way so as to reduce the employability gap and reduce the problems of students.

Kaushal Urvashi (2016) has performed an analysis on engaging technology understudies through competence in employment prospects. The researcher is of the opinion that in the contemporary competitive league it is crucial for technical students to possess some of the core skills that recruiters expect in addition to holding a professional degree. The analyst proposed that technical educational institutes should focus more on improving skill set of the students as per industry requirements

Chithra. R (2013) had conducted a research on the discernment of technology learners and their potential employers. She concluded that there is major disparity within perspective of learners and their subsequent employers. Further it was found that learners with job experience are more conscious of employability know-how than other students. Improving expertise and information deployment across specialized training will allow staff to do their jobs in the best way possible and this is the hour's need.

Because so many researches rely on employer understanding, the researcher has assigned reasonable significance to that of the notion and trait of the worker.

### **3. Objectives of the Study**

The present research is conducted with an objective of highlighting the capabilities of technology graduates as regards employability. The main objective is to examine the disparity between graduates of technology who are planning to enter the software business. Below mentioned are objectives of study under question:

- ✓ To objectively recognize employers' views of employability capabilities in engineering.
- ✓ Identify the technical graduates' understanding of employability skills.
- ✓ To describe the gap among learner and professional comprehension.
- ✓ To determine how gender and job experience are impacting graduates' employability skills.

### **4. Research Methodology**

It is an investigational analysis. The researcher has developed 2 online surveys relating to different skill structure and described a set of 25 skills as an assortment of the skills. The work ethic was classified as per the template established by World Bank to research engineering graduates' employability skills in India. (Andreas Blom, 2011).

The sample of 180 engineering students of final year and post graduation were from technical educational institutions from Baddi, Barotiwala and Nalagarh. Another sample of 70 professional was taken from industrial hub of Baddi, Barotiwala and Nalagarh to recognize the perspective of the employers towards job skills.

## 5. Empirical Analysis & Elucidation:

### 5.1 Demographic profile of Job Providers

The sample size was 70. The following are demographic details of the professionals:

#### 5.1.1 Demographic data (Size of Job Providers)

**Table 1:- Analysis of Job Providers on the basis of their size**

Job Provider's size	Number	%
Large (15000 and above)	12	17.14
Medium(7500-15000)	23	32.86
Small(100-7500)	45	64.28
Total	70	100

It was evident from above analysis that maximum respondents were from small size followed by medium and large size companies.

#### 5.1.2 On the Job experience

**Tab. 2: Analysis of Job Experience on basis of Sex**

Job Experience	Male	Female	Total	Percentage
4< 7	8	16	24	34.29
7< 10	12	18	30	42.86
10< 15	4	6	10	14.28
15 Years & Above	6	0	6	8.87
Total	30	40	70	100

The researcher has identified technical experts & performance management workers with more than 4 years' experience in software companies. It was found that 8.87% professionals were having experience of 10years & above.

## 6.2 The students' descriptive stats are below:

### 6.2.1 Relationship of Graduates as per their age and sex

**Table 3: Relationship of Graduates as per their age and sex**

Age	Male	Female	Total	Total (%)
21	25	46	71	39.44
22	19	12	31	17.22
23	19	22	41	22.78
24	5	6	11	6.11
25	4	5	9	5.00
26	3	5	8	4.44
27	2	2	4	2.22
28	3	2	5	2.78
Total	80	100	180	100

From the above analysis it is evident that maximum respondents (85.55%) belong to the age group of 20-24 yr. followed by 14.45% of the respondents were in 25-28 years category.

### 6.2.2 Relationship of Graduates as per their sex and medium of education

From the analysis it was found that 71% of respondents finished their school education in English medium as against 29% of respondents who finished their schooling in mother tongue. It was found that communication skills of english medium students are better than that of hindi medium students. So for getting a decent job they are required to polish their communication skills.

**6.2.3 Analysis on the basis of Academic qualification and sex**

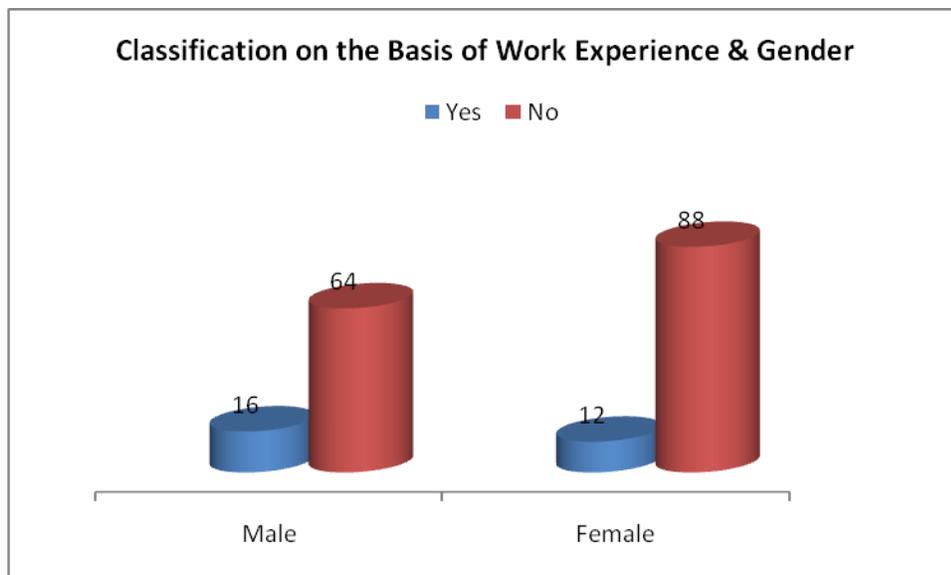
**Table 4- Educational Qualifications**

<i>Education</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Percentage</i>
<i>B.Engg</i>	46	44	90	50
<i>B.Technology</i>	16	46	62	34
<i>M.Engg</i>	14	1	15	8
<i>M.Technology</i>	4	9	13	8
<b>Total</b>	<b>80</b>	<b>100</b>	<b>180</b>	<b>100</b>

Examination found that the highest number of respondents sought a Bachelor of Engineering degree , followed by Bachelor of Technolgy, M Engg and M technology.

**6.2.4 Analysis on the Basis of job experience & gender**

It was clear from the following figure that most of the respondents didn't have any job experience. It offered a clearer impression of importance of employability skills



**Figure 2: Analysis on the basis of job Experience and Gender**

**6.2.5 Top 10 Employability qualities for Job Provider and graduate students**

**Table -5- Top 10 Employability qualities for Job Provider and graduate students**

Job Provider			Learner		
Skills	Mean	S.D.	Skills	Mean	S.D.
Accuracy	9.74	1.76	Basic Computer Skills	9.56	1.38
Integrity	8.9	1.86	Technical Skills	9.5	1.32
technical Knowledge	8.8	1.9	Use of Modern Tools	9.46	1.32
Communication	8.82	1.86	Communication	9.42	1.28
Teamwork	8.7	1.76	Advanced Computer Skills	9.3	1.18
Willingness to Learn	8.52	1.36	System Design	8.8	1.42
Selfdiscipline	8.52	1.58	Responsibility	8.4	1.34

Entrepreneurship	8.44	1.72	Discipline	8.22	1.38
Flexible	8.3	1.8	Creativity	8.2	1.36
Understanding	8.28	1.92	Application of knowledge	8.2	1.54

From the above research it was evident that companies gave reasonable priority to interpersonal expertise while learners gave emphasis to technical abilities. Highest rated capabilities including such as accuracy, integrity, technical knowledge were in the top ranks of the ranking of the learners. This disparity in understanding illustrates the need to create awareness among the learners about job skills in technology.

#### **Inference:**

The study indicates that the Indian learners have a deep commitment for awareness to recognize the employability skills expected by the international job sector. For this cause, the learners can't be criticized, but institutions of higher learning providing higher education would still need to take personal responsibility and redesign the programs at convenient times to meet the industry needs. Furthermore, a prolonged and ambitious strategy should be instituted to educate technology learners. Increasing the interaction between Industry and academia is necessary to meet the business expectations. The study indicates that learners with professional experience have a better understanding of the abilities of employability than learner's lacking job experience.

In this regard it is suggested that All India Council for Technical Education (AICTE) and University Grant Commission (UGC) should make it sure that institutions offering technical education should change the dimensions of learning by its latest course curriculum and innovative teaching pedagogy.

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#### **Conflict of Interest:**

The authors announce no conflict of interest concerning the publication of this paper.

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