INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

IJRCM

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    INTRODUCTION

    REVIEW OF LITERATURE

    NEED/IMPORTANCE OF THE STUDY

    STATEMENT OF THE PROBLEM

    OBJECTIVES

    HYPOTHESES

    RESEARCH METHODOLOGY

    RESULTS & DISCUSSION

    FINDINGS

    RECOMMENDATIONS/SUGGESTIONS

    CONCLUSIONS

    SCOPE FOR FURTHER RESEARCH

    ACKNOWLEDGMENTS

    REFERENCES

    APPENDIX/ANNEXURE

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10.   **FIGURES & TABLES:** These should be simple, crystal clear, centered, separately numbered &self explained, and **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. It should be ensured that the tables/figures are referred to from the main text.

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BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

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- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

A STUDY ON THE IMPORTANCE OF SOFT SKILLS AND POSITIVE ATTITUDE AS PERCEIVED BY INDUSTRY WITH SPECIFIC REFERENCE TO FRESH ENGINEERS

B R VENKATESH
PROFESSOR & COORDINATOR
DEPARTMENT OF MANAGEMENT STUDIES
GLOBAL ACADEMY OF TECHNOLOGY
BANGALORE

ABSTRACT

A study on the importance of Soft Skills and Positive Attitude as perceived by industry with specific reference to fresh engineers, right from the time of industrial revolution, the parameters sought by the employers in employees were generally the physical ability and the technical knowhow required to execute the specific job. As the times passed by, the needs of the community & society changed drastically, the demands rose with more specifics, technology grew by leaps and finally the products and services changed for the better. In the process, the boundaries of both the consumption & the market grew from local to global and thus the employment arena opened up the international borders. This is exemplified with products being designed in Japan, manufactured in China, marketed for the world, owned by Europe, supported by India, shares traded from Mumbai to New York, the list is endless. All these have transformed the whole world into a global village thus the demand for skills other than hard ones in terms of soft skills coupled with positive attitude are on the rise. This paper focuses on Human Resource Area in general and the importance of Soft Skills and Positive Attitude as perceived by industry with reference to fresh engineers, in specific. This paper is based on a diverse combination of conceptual structure and empirical study dealing with measure of soft skills and positive attitude as professed by the employers in fresh engineering recruits. The conceptual outline covers a vital review of the important literature and concludes at a more defined formulation of the theory. The empirical component is supported with responses received for semi-structured interviews with Human Resource and Technical heads of select companies. The outcome of the literature survey and the empirical study coherently put together has helped in identifying the skill sets sought after by the industry and this may guide the academia to attempt incorporating necessary measures.

KEYWORDS
Academia, Fresh engineering recruits, Industry, Positive Attitude and Soft Skills.

INTRODUCTION

In the graduate employment market, a professional degree carries higher and better credence than a normal degree. A degree awarded by a reputed institute / a university still has a very high prevalence with the industry / employers. In spite of this being very true, there is significant and compelling evidence that degree or the certificate alone won't be enough in today's competitive market but employers have been increasingly looking for human resources with appropriate soft skills and right attitude.

The Confederation of British Industry (CBI) defines employability skills as: "a set of attributes, skills and knowledge that all labour market participants should possess to ensure that they have the capability of being effective in the workplace – to the benefit of themselves, their employer and the wider economy." Employability skills are not just for gaining an initial employment but to sustain and if required, getting a new employment too.

The competition among the fresh graduates is growing tougher and tougher with over 400,000 graduates passing out every year. They are bound to face questions as to what skill sets they learnt in the university and what experience they gained to complete the tasks more effectively and within a given time. In addition to one's degree certificate, it is simply needed today to be proactive and thorough with displayable employability skills to make one's CV look worthier. Today, in India, unemployability is more predominantly threatening the country rather than unemployment. Dr A P J Abdul Kalam, our former President of India has rightly said that India does not have the problem of unemployment but unemployability.

As per the results of the survey, jointly conducted by Federation of Indian Chambers of Commerce and Industry (FICCI) and the World Bank, 64 percent of surveyed employers are "somewhat", "not very", or "not at all" satisfied with the quality of the skills of engineering graduates. It is interesting to note that India has one of the world's largest qualified pools of technical manpower. But, the employability of the very resource is not truly encouraging compared with many other countries.

Integrity, reliability and teamwork are the three primary skills identified, whereas three most important specific skills are communication in English, entrepreneurship and use of modern technologies. Most of the employers were found satisfied with English Communication of the graduates while reliability was not fully convincing.

In simple words, employability is directly proportional to one's competency which in turn is a comprehensive combination of Knowledge, Skills and Attitude of persons. Competency is here viewed as both an absolute parameter and a relative terminology as one's competency is always compared with the other.

Further, in today's competitive world, an employee is always looked at in terms of one's current competency levels than at the one with which he entered into the organization. So, how well is he keeping himself updated and practical is very critical for one's own growth and sustenance.

The unpleasant observation in today's scenario is that quality of graduate engineers is compromised with total focus on producing more and more engineers quantitatively. This is evidently seen with mushrooming growth of engineering colleges throughout. Arguably, the educational system of the day is probably adding to the already existing melancholy.

It is widely reported that the recruiters are finding it tough to find the right skills and right attitude in almost all engineering disciplines. The widening gulf between what the industry expects and what the academia delivers is probably understood by referring to the industry stalwarts stating that only 15% to 25% of current engineers are employable.

Based on the industry in which an organization is operating, it looks for different sets of skill sets in potential hires or recruits. Multi skilled individuals are always in demand. Though every organization focuses on its own specific needs, certain common skills such as good communication skills, right attitude, interpersonal skills, integrity, decision making & problem solving ability and team comrade skills are always desired irrespective of the type of business or industry.

All employers irrespective of the type of their industry demand high degree of employability skills as that forms the very basis of their survival, sustenance and growth in today's tough global business environment. In fact, other resources being almost equal it is truly the Human Resource of high quality skills that differentiates between the market leaders and all others. Employers throughout the world have realized this factual aspect long ago and hence today physical international boundaries do not mean anything when it is the question of hiring the talent. Slowly but of late, even our Indian graduate youth have recognized this global truth and are in right path of keeping themselves abreast and updated with regard to both core and other employability skills.

Stringent hiring standards such as 65 to 70% consistent merit right from X standard to the final semester of B E, very good communication skills observed in Group Discussions and detailed technical and HR personal interviews in recent years have exposed the widening employability gap into spot light. Skills like creativity, innovativeness, thinking out of the box, adaptability, time consciousness, corporate etiquette and many more are being observed and valued.

Many of the aspiring young graduates despite having good academic records lack the critical skills which are cited above. Today's work environment puts a high premium on independent thinking, responsive and effective communication skills.

Most of the colleges and universities are just delivering today the old curricular contents without due regard to what is the current need of the industry. Even the syllabus is not being updated regularly in consultation with the industry. Pure textbook approach without practical exposure and knowledge takes the youth nowhere in terms of industry readiness. Further, the current examination system of giving choice like "Answer 5 out of 8" will not certainly help the cause as there is no choice once a graduate steps on the corporate ladder. It is further alarming to note that first class (60% -70%) students and even quite a few distinction (70% & above) students fail to clear the communication tests, group discussions and personal interviews.

Respondents from the industry revealed that unlike earlier, today, they do not have time to train the fresh recruits on all aspects and rather they expect the fresh hires to be job- ready from day one. With this in background, how can we resolve this issue? Probably and arguably the answer lie in our education system, wherein so far only the core/hard skills are being taught.

One of the key challenges faced by the Indian corporate world today is proper young human resource with right skill sets and competencies to take on global competition in quick time. With the industrial growth being rapid in general (except for the period of recession), rightly populating the entry level pipe line is highly essential. This is generally met with through campus recruitment. The immediate next challenge would be "up-skilling" of existing employees to take higher positions of team leaders and managers of higher order competencies. Over a span of time, it is very clearly realized by the industry that well experienced & highly skilled human resource is generally short in supply and if available, it is quite expensive. Hence, HR strategies, processes and practices which are upwardly scalable, innovative and cost effective are to be evolved and sustained.

This paper aims at exploring the specific skills required for obtaining and sustainable employability of engineering graduates in the eyes of the recruiters. In most of our engineering colleges, students do come from different backgrounds in terms of academic standards, urban & rural divide, varied native languages and multi cultural canvas. In order to gain and sustain an employment in today's challenging scenario, there is a strong need for a common link to make them competent. Communication in English may remove the lingual barriers in corporate world and give them a common medium to communicate. In addition, according to the author's findings the students with skills like positive attitude, problem solving, time management, team spirit, self-confidence, handling criticism, flexibility and a few others, also known as soft skills as a whole, have much better chances of not only survival but successful growth in the tough corporate world compared to others who lack these.

The necessary data for the study has been collected through questionnaire technique and personal interview method.

REVIEW OF LITERATURE

1. Duyen Q. Nguyen in his study 'The Essential Skills and Attributes of an Engineer: A Comparative Study of Academics, Industry Personnel and Engineering Students' analyzed through survey data on the most essential generic skills and attributes of a modern engineer and concluded on the requirement of technical knowledge and skills and attitudes. His study revealed that the emphasis given to personal and professional attitudes by the industrial sector was interesting and indicates that engineers are not only expected to be technically proficient in the field but also to know how to behave and operate within an organisation. He even pointed out that other generic groups such as intellectual skills and standards of engineering practice were also highly regarded by industry

2. Meenakshi Sharma, in her paper 'How Important Are Soft Skills from the Recruiter's Perspective' has discussed about the role of soft skills in different managerial roles and weightage of soft skills in promotions. Her study results have shown that industry does prefer people with experience, but they also look for some other qualities in them. Along with technical skills, people who are adaptable and have the zeal to understand and learn new technologies as part of their growth process are sought. She quoted that the interpersonal skills, alignment with the corporate culture, the ability to work as an effective and contributing team member and the political savvy to know how to get things done in the organization" also determine a person's long-term success in an organization. The study revealed that in general, hiring managers are not happy with the new workforce coming out of the colleges and they do believe that they should be much better equipped with soft skills as well as hard skills.

3. In article 'English and Communication Skills for the Global Engineer', Marc J. Riemer, discussed about the communication skills and its importance for engineering graduates for the employability. He quoted in his article that, Language and communication skills are recognized as important elements in the education of the modern engineer, including English for specific purposes. Yet, there seems to be limited implementation of English courses globally, despite its current lingua franca status. Those institutions that have already implemented multilingual and communication elements will be at the forefront of providing the demands of industry and society. The incorporation of several components of the fundamentals of emotional intelligence in education will facilitate advanced communication skills.

4. In the article, 'Sustainable Employability Skills for Engineering Professionals, author V. Saravanan aimed at exploring the skills set required for sustainable employability of engineering graduates in India. His study revealed that as in most of the Indian engineering colleges, students are from different academic backgrounds coming from different places having different mother tongues, there is a need to provide them a common platform to make them competent enough to face the real challenges of today's corporate world. English is the language which can remove the lingual difference among them and give them a common medium to communicate. According to his findings that students with skills like positive attitude, effective communication, problem solving, time management, team spirit, self-confidence, handling criticism, flexibility, etc which are also known as soft skills as a whole, have much more better chances of survival in the tough corporate world compared to the students who are lacking in the soft skills.In the paper author tried to list the skills needed for the students to get employed in reputed companies and has shown how these skills are important for them to work in a performance oriented work environment.

5. In the article 'Enhancing the Employability Skills of Undergraduate Engineering Students' by MARGARET MORGAN1 and PEARSE O'GORMAN[2], says that methodology for developing engineering students at the University delivers the traditional scientific, technical, analytical and mathematical subjects that are fundamental to the area of mechanical and manufacturing engineering but with an emphasis on developing the students' commercial awareness and communication skills that employers, and beyond, have identified as being so important. Students finishing engineering programmes at the University which focuses on enhancing the employability skills of graduates there by giving them a competitive edge in securing suitable employment, have reported high levels of satisfaction with the extent to which their business awareness and soft-skills have been developed. Finally, employers are very satisfied in that a very high percentage of the graduates obtain suitable employment in graduate positions within a short time of completing their studies. GORMAN has taken ULSAR University for his study and implemented his new method of syllabus on mechanical engineering students and has proved the effect of employability training.

6. Divya Shukla in her article 'Employability Skill among Professionals – Chagrin of HR Executives in Indian Labor Market: A Study on Engineering Graduates of Bhopal City, has focused on attitude importance in employability. In her study she has discussed on the mushrooming of the technical and professional institutions in India and its resultant into the million of professionals and technocrats' contribution to the Indian labor market and employability among these pass out. The research paper is an effort to check the status of the employability among the engineering professional of Bhopal City. The objective of the research is to identify the level of employability skill among students, its differences based on the respondents' demography details and to facilitate suggestive measure to this regard. The data was collected through questionnaire from 291 engineering professionals who are in final year of their BE degree. She analysed the average and moderate level of employability skills among the professionals.

7. In response to the question "How can the Indian industry and academia collaborate to make engineering education better?" by EE Times-Asia*, Jaswinder Ahuja, Vice President & Managing Director, Cadence Design Systems (I) Pvt. Ltd [4] stated as: There are several ways in which to bridge the gap, some of which are detailed below. Industry-academia-government partnership to provide students with valuable practical experience while in college by applying their theoretical knowledge to actual customer problems; The ecosystem needs to work together to constantly update the curriculum of educational institutes for it to be in line with the latest industry developments; Encouraging internship programmes. This imparts hands-on technical, business and soft skills to students in a professional environment and also gives access to a potential workforce to the company.

Responding to the same question, T.V. Prasad, HR Director, Cypress Semiconductor Technology India Pvt. Ltd suggested that some specific steps that can be taken are:

a) Universities/colleges need to constantly review their curriculum and adapt to the changing industry needs.

b) Universities/colleges need to focus much on research involving real technical problems that the industry is trying to solve.

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c) State level and district level industry-academia interface bodies need to be initiated

d) Many universities do not have enough faculty. Industry can bridge this gap by asking their employees to do part-time faculty assignments.

e) Industry and academia together can sponsor several innovative challenges / competitions that involve solving technical problems that are current and live in the industry.

The industry and analysts see a growing employability gap for graduating engineers. What is your opinion? In response to this query, Krishna Vedula, Professor of Chemical Engineering, Dean Emeritus of Francis College of Engineering at University of Massachusetts Lowell; former Executive Director of Indo-U.S. Collaboration for Engineering Education with inputs from M.P. Ravindra, Executive Director- IUCEE (India)*; Advisor-E&R, Infosys Technologies Ltd expressed that:

The need to innovate new technologies in collaboration with the users of the technologies has changed the workforce needs of the business world, while the aptitude and talent of the future workforce have changed radically as a consequence of easy access to digital and communications technologies. Although engineering educational institutions in U.S. and India are responding to these changes, many of them are inhibited by traditional approaches to teaching and research. Engineering education needs to pay more attention to the development of innovation, entrepreneurship and the ability of its graduates to function in a constantly changing global environment. The future of the U.S. technical workforce is challenged by the lack of interest and preparation among its youth for science and engineering careers. At the same time, India has a large number of youth with strong math and science skills interested in engineering careers, but limited by inadequately trained faculty, poor facilities and limited research in a majority of its engineering colleges.

8. M.Vijayakumar & Dr S Ramalingam in their article 'A study on competency needs analysis and quality factors for fresh recruits' have attempted to study the methodology and processes involved and the strategies and challenges the companies face during the exercise. They discussed about big gap between what the employers expect and what the candidate show case in terms of employable competencies. They attempted to bring in to lights the factors that are commonly considered in job interview and how those factors fall in order of preference.

9. In the paper 'An Empirical Study on Expectations of Industry from Academia', Prof. Neeraj K. Dubey, Dr. Saurabh Goyal, Prof. Ravindra Pathak, Dr.Uday Singh Rajput tried to explore gap between industry expectations and quality of recent college graduates. They tried to create an active interface between industry and academia. In the study they have considered 12 determinants of employability namely-soft skills, leadership qualities, suitability, analytical power, ethical component, dressing sense, language, appearance, manageability, training needs, industry's view and professional commitment. The results indicated the importance of softskills and other criteria along with the basic theoretical knowledge.

10. The study done by FICCI on 'Industry – Academia Convergence "Bridging the Skill Gap", talks about the need for effective intervention to understand employer needs, variable sector specific skills, training requirements that improve business performance, articulation of business expectations in education institutions and engagement of industry leaders with higher education institutions. Given its mandate, FICCI through the platform of Industry – Academia Convergence, endeavours to bring together higher education institutions and employers to evolve modalities for collaboration with the aim to meet India's medium and long – term skills and business needs for the 21st century.

11. In the article 'Engineering education in the context of labour market requirements and expectations - Polish experiences', Agata Pradela has studied on the process of engineering education. The most important issues, challenges and problems connected with higher education are described, such as educational trends, the low quality of education at schools (in the opinion of academics), demographic gaps and the lack of monitoring of labor market requirements. he highlights system solutions of engineering education and activities that support engineering education such as career service, technology transfer, co-operation between employers and universities, and research on matters relating to students' and graduates' careers. The author has has come up with the determinants and perspectives of engineering education.

12. SUSAN M. KATZ in her article 'The Entry-Level Engineer: Problems in Transition from Student to Professional' has discussed on the issues of the students transformation problems from the stage of student to professionals. And suggests that many basic skills required in the workplace, including the ability to work on a team and to communicate with one's peers and supervisors, are missing or insufficiently developed in recent college graduates. She quotes that through many employers have programs to overcome these deficiencies, academicians also should consider what best can be done to prepare students for their future roles, and what students themselves can do to ease the transition.

13.Winbladh (2004) in his article 'Requirement engineering: Closing the gap between academic supply & industry demand' has focused on the requirement engineering that involves capturing, structuring, and accurately representing the client's requirements in a manner that can be effectively implemented in a system that will conform to the client's specifications. He also suggested project based & collaborative learning to upgrade the students. He concluded that new graduates are ill equipped to enter and survive a market with recessions because they do not exhibit the qualities the qualities that the industry treasures.

14. Eileen M. Trauth in his study 'The IS Expectation Gap: Industry Expectations Versus Academic Preparation', focussed on recent changes in information systems technologies, applications, and industry requirement for tomorrow's IS professionals. He used data from four groups-IS managers, end-user managers, IS consultants, and IS professors-to identify the key skills and knowledge that will be required of future IS professionals. These requirements were then compared with current IS academic programs. The results reveal that despite a shared vision of the future IS professional, there is an "expectation gap" between industry needs and academic preparation. He quotes that Industry and universities must work together to close this gap. Universities need to place more emphasis on the Information Systems Curriculum integration of technologies, applications, data, and business functions and Jess on traditional and formal system development. Firms need to send consistent messages to universities about their expectations while recognizing that the mission of university business programs is career education, not job training.

15. Ghosh et al (2007) discovered that at present, there are several mechanisms operational in India, with 'Academia-Industry interaction,' as a fulcrum of technical education. He focussed that by involving the industries right from the stage of drafting syllabi to absorbing the trained students, they are allowed to shape the CORE into a highly productive Human Resource Centre. This also enables them to reduce the time required to orient a fresh graduate before s/he could be inducted into shop floor and to upgrade/ re-skill their existing employees at a very competitive cost. Zahid (2008) concluded that higher education and industry linkages should remain alive for constant updating of courses. By creating the partnership between universities and industry, both can benefit from resources of each other.

16. Modi (2009) concluded that fresh graduates, who join the industries, require six months to 2 years as gestation period to show their contribution and, many a time, they leave the organisation before they start showing results. This is due to the gap between theory and practice. The industry, R&D labs should become partners with the centres of higher learning.

17. Paliwal (2009) has focussed on coordination among the efforts of academia, industry and the government. He emphasized on instilling the traits which are expected by the prospective employers. Hannan (2003) recommended that faculty-student ratio should be close to 1:10, frequent revision of syllabus in consultation with the industry and institutions should create the professionals with global mind set so that they can adjust in different cultural & social settings.

NEED FOR THE STUDY

We find a phenomenal growth of engineering institutions in India especially after the year 2000. Based on TNN-Times News Network of 28th Feb 2012, India is now home to 3,393 engineering colleges that have 14.86 lakh seats; Further, just 5 states: Maharashtra, Andhra Pradesh, Tamil Nadu, Karnataka and Uttar Pradesh have about 70% tech institutes. With this data on the input end, leading industrialists and NASCOM state that only 15% to 25% of technical graduates are employable.

Her graduates, why our corporate leaders and managers are not happy with the graduates of the day? Here rises a natural question that In spite of so many technical institutions producing large number of graduates, why our corporate leaders are not happy with the graduates of the day? Certainly the point is towards the holistic quality and not the quantity.

On one side the Knowledge commission moots for more number of engineering colleges and on the other side, lakhs of seats lie vacant after the admissions are completed. (When admissions closed in the year 2011-12, AICTE estimated that nearly three lakh seats were unfilled). Further, there are certain perennial problems associated with a large number of engineering colleges, few of which are as follows:

- Insufficient number of well qualified and passionate faculty.
- Lack of Infrastructure – Laboratory equipment, Workshops, etc.
- Lack of quality reference material in libraries
- Minimum Student Faculty Interaction
- More emphasis on Theoretical Lectures than Practical Applications
- High priority accorded to passing examinations than acquiring knowledge.
- Lack of Institute Industry Interaction
- Lack of or minimum live project works by engineering students
- Low self esteem, confidence, and fear of facing Interviews
- Lack of students' competencies required for employment.

It may be mentioned here that this is a part of the doctoral study that is being done with the title "empirical study of Engineering Students' competencies for matching Academia deliverables and Industry needs". With the literature survey cited and opinions of industry heads studied, it is a clear picture that importance of Soft Skills and Positive Attitude as perceived by industry with specific reference to fresh engineers is really more focused now than ever before and hence the need for the study is prompted.

STATEMENT OF THE PROBLEM
Are soft skills and positive attitude important for fresh engineering graduates today to get employed?

OBJECTIVES
The study tries to answer the following questions:
1. Which skills do employers consider important while hiring new engineering graduates?
2. How satisfied are the employers with the skills of fresh engineering graduates?

RESEARCH METHODOLOGY
PROCEDURE USED TO COLLECT DATA
As a part of 'Empirical Study of Engineering Students' competencies to match Academia Deliverables with Industry Needs" - a doctoral thesis, this paper tries to list the skills needed for the students to get employed and show how these skills are important for them to work in a performance oriented work environment. To achieve the objective, data was collected from mainly primary sources while secondary source data has been utilized to conceptualize and substantiate the research work.

The primary data was collected through structured questionnaires framed for the Technical and HR heads of different organizations using the workforce to get their opinion & sensitivity on what their expectations are from the fresh recruits and what suggestions they have for improvement, as they are the basic demand creators and end users of the services. Technical & HR heads of over twenty organizations like BHEL Electronic Division, Cisco, Sasken Technologies, Nokia Siemens Networks, Mind Tree, IBM, Infosys, etc, have been considered as sample data for the study. To fulfill these aims, the researcher has considered Technical Skills, Soft skills along with Attitude as the criteria and framed a structured.

Technical Skills	Soft skills	Positive Attitude
Design, Logic Design, Circuit Analysis, Meticulous Assembly of components, Instrumentation skills, Testing skills, 'C' language, C++, Java, Troubleshooting, VLSI, DSP Programming, Board Designing, Network Analysis, Assembly language, Debugging	Communication Skills – Verbal & Non Verbal, Multi lingual skills, Decision making ability, Team Work, Leadership qualities, Art of Questioning, Diplomacy, Need for Multiple Tasking, Risk taking skills, Independent working, Wisdom to prioritize, Ability to say 'no', Knowledge of legal issues, Numerical aptitude, Strong memory, Planning skills, Managing Resources. Caring customers(CRM),	Time sense, Self initiative, Cost Consciousness, Quality Consciousness, Concern for Deadline, Creative thinking, Spiritually mindedness, Emotional stability, Self motivation, Working under pressure, Logical approach, Meeting etiquette, Competitive spirit, Winning attitude, Corporate etiquettes, Readiness to change, Accepting failure, Ego management. Sense of Humour , Valuing ethics.

ANALYSIS AND FINDINGS
The employers of engineering graduates specifically seem to focus on Theoretical Knowledge, Technical Skills and Positive Attitude to learn and work in dynamic and challenging environment. From the study it appears that recruiters/HR experts are ready to give opportunities to fresh engineering graduates possessing positive attitude, core and soft skills and this inference is drawn as their priority indicated is so high with a rating of 5 on a scale of 1 to 5. Hence, in employers' perspective, if engineering graduates possess the needed skills, they can be moulded to organizations' requirements.

OVERALL SKILLS SET
Recruiters have ranked different parameters with rankings as follows:

GENERIC SKILLS & ATTRIBUTES

SL. No	Generic Skills & Attributes	Industry Rank
1	Theoretical knowledge	5
2	Technical skills	5
3	Positive attitude	5
4	Soft skills	4
5	Practical knowledge	3

importance given by recruiters on skill set
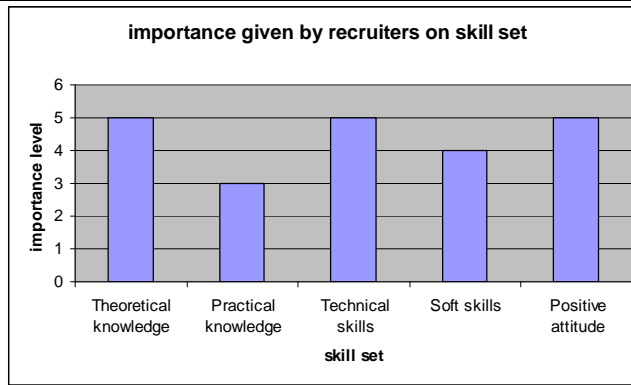
THEORETICAL / CONCEPTUAL KNOWLEDGE & PRACTICAL KNOWLEDGE

When the researcher attempted to find industry's opinion on "lack of theoretical skills", on an average 90% of the respondents strongly or moderately disagreed and they are of the opinion that students are "fair" in conceptual knowledge while they opine that practical skills are very less. Almost same percentage of the industry respondents say that the students do lacking practical knowledge.

openion on fresh engineers lack theoreticalknowledge

openion of recruiters on fresh engineers lack practical knowledge
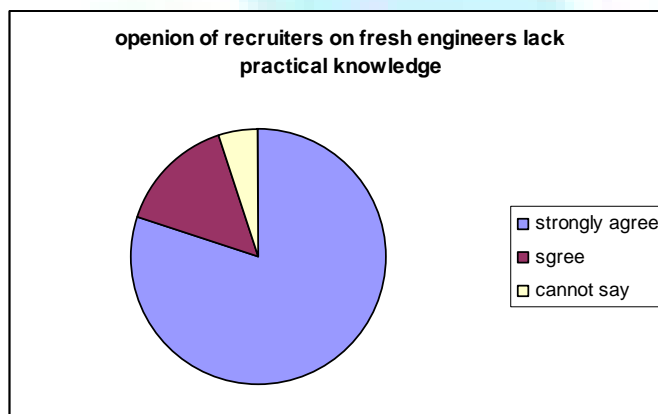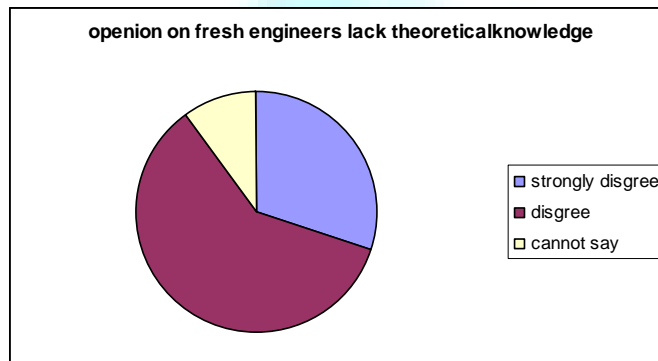
Researcher has grouped all the skills which he has considered for study into 12 heads for computational purpose with the help of factoring and tried to identify the ranks given by the recruiters and found the rankings as given below (please refer both the table and the chart).

SL. No	Generic Skills & Attributes	Industry Rank
1	Design and analytical skills	4
2	Programming skills	4
3	Testing skills	5
4	Instrumentation skills	3
5	Trouble shooting and debugging skills	4
6	Production & assembly skills	5
7	Communication skills	4
8	Team and leadership skills	4
9	ion making skills	4
10	Time management skills	5
11	Execution skills	5
12	Trainability and grooming skills	5

BAR CHART SHOWING THE RANKS AS INDICATED BY THE INDUSTRY EXPERTS
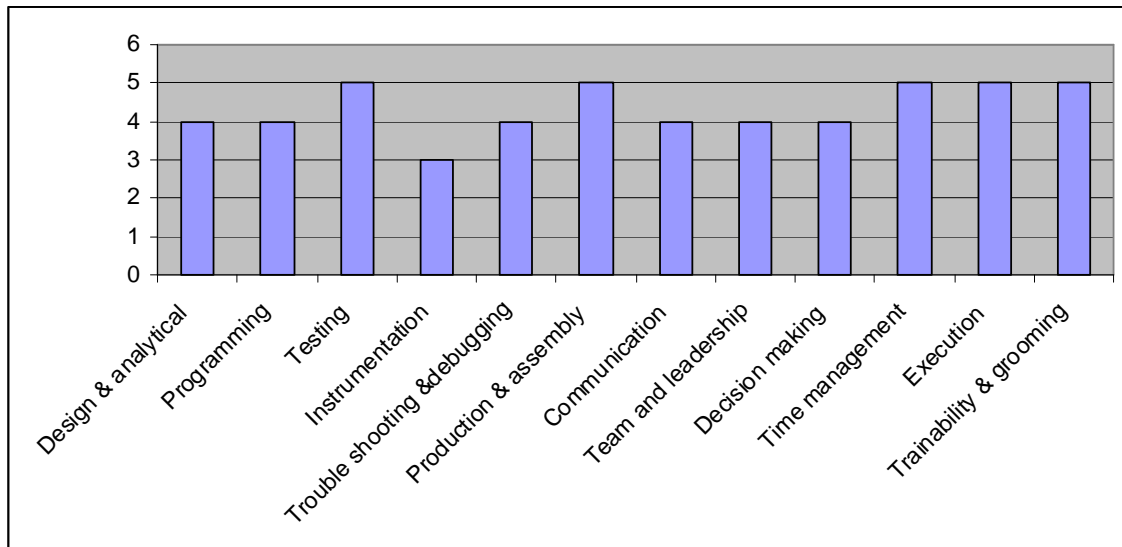
When recruiters were asked about the importance of attitude and whether they feel the fresh engineers have the positive attitude, many are in agreement that graduates have the positive attitude.
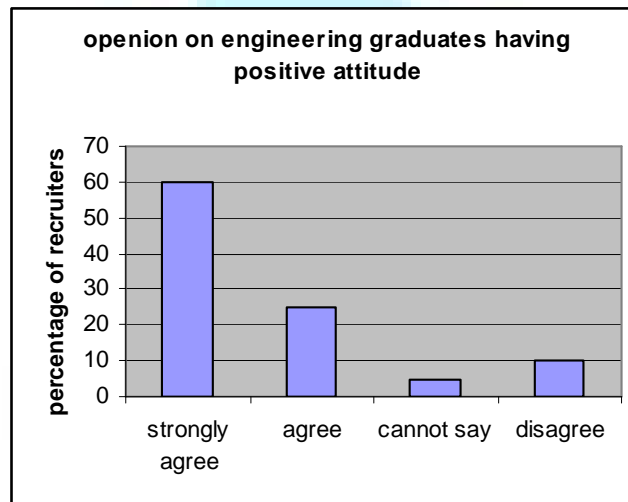
CONCLUSION

Studies have shown that the recruiters expect a high degree of technical knowledge and conceptual clarity in the fresh recruits. Further, the results have shown that in addition to technical knowledge, skills and expertise certain specific skills and qualities are expected in the graduate engineers of the day. As technical skills without the motivation to keep growing and learning new ones, would soon become outdated, they specifically look for people who are adaptable and have the zeal to understand and learn new technologies as part of their growth process. The recruiters attach a very high weightage to soft skills and positive attitude on par with technical skills.

The results have pointed that in general, hiring managers are not satisfied with the new workforce coming out of the colleges with regard to long term approach and reliability. They do believe that gradate engineers should be much more job ready with necessary soft skills in addition to the hard skills. The employers expressed that in order to shoulder higher responsibilities in key positions, the need for soft skills and positive attitude are very essential as the company grows bigger with expanding domains and markets in current scenario.

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APPENDIX

QUESTIONNAIRE FOR INDUSTRY HEADS - IJRCM 11.12.2012

QUESTIONNAIRE FOR INDUSTRIAL HEADS (HR & TECH FUNCTIONS)

1. Choose the kind of Industry, your company belongs to:

a) Electronics   b) Telecommunication   c) Automobile   d) Communication

2. Choose the kind of function your company is associated with:

a) Design   e) Marketing

b) Production   f) Service

c) Testing   g) Others…………………..

d) R&D

3. Your sources of HR Recruitment at entry level:

a) Campus Selection   e) Job Portal

b) Project Trainees / Apprentice   f) References

c) Consultants   g) others (Please specify) _____

d) Newspaper

4. While recruiting Electronics & Communication Engineering / Telecommunication Engineering Graduates, what do you primarily look for?

(In the range of 1 to 10, (10 being the most sought and 1 being the least preferred)

a)   Theoretical Knowledge(1…………10)   d) Soft Skills(1…………10)

b)   Practical Knowledge(1…………10)   e) Positive Attitude(1………10)

c)   Technical Skills (1…………10)   f) others (Please specify)…………..

5. a) Do you feel that the fresh engineering recruits lack in theoretical aspects of Technical knowledge?

   Yes   No   Can't Say

   b) If yes, please suggest the areas / aspects of such theoretical knowledge which they lack?

   _____

   _____

6. a) Do you feel that the fresh engineering recruits lack in practical aspects of Technical knowledge?

   Yes   No   Can't Say

   b) If yes, please suggest the areas / aspects of such practical applications which they lack?

   _____

   _____

   _____

7. In your considered opinion what technical skills are required for a fresh engineering recruit? Kindly specify the ranges on a scale of 1 to 10 (10 being the most sought and 1 being the least preferred)

Technical Skills	Scale of (1…..10)		Scale of (1…..10)
a) Design		j)	Troubleshooting
b) Logic Design		k)	VLSI
c) Circuit Analysis		l)	DSP Programming
d) Meticulous Assembly of components		m)	Board Designing
e) Instrumentation skills		n)	Verilog
f) Testing skills		o)	Network Analysis
g) 'C' language		p)	Assembly language
h) C++		q)	.net
i) Java		r)	Debugging
s) Other Programming languages (please specify)………………………..		t)	Any other technical skills

Please specify along with the range

………………………….   ……………………………………

………………………….   ……………………………………

8. In your considered opinion what soft skills are required for a fresh engineering recruit? Kindly specify the ranges on a scale of 1 to 10 (10 being the most sought and 1 being the least preferred)

Soft Skills	Scale of (1…..10)		
a) Communication Skills - Verbal		v)	Independent working
b) Communication Skills – Non Verbal		w)	Wisdom to prioritize
c) Multi lingual skills		x)	Ability to say 'no'
d) Decision making ability		y)	Knowledge of legal issues
e) Team Work		z)	Working under pressure
f) Leadership qualities		aa)	Numerical aptitude
g) Positive Attitude		ab)	Logical approach
h) Time sense		ac)	Meeting etiquette
i) Self initiative		ad)	Competitive spirit
j) Cost Consciousness		ae)	Strong memory

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k)   Quality Consciousness
l)   Concern for Deadline
m)   Art of Questioning
n)   Diplomacy
o)   Need for Multiple Tasking
p)   Grooming
q)   Creative thinking
r)   Spiritually mindedness
s)   Emotional stability
t)   Self motivation
u)   Risk taking skills
Aq) Other soft skills required

af) Winning attitude
ag) Corporate etiquettes
ah) Readiness to change
ai) Accepting failure
aj) Caring customers(CRM)
ak) Planning skills
al) Ego management
am) Managing Resources
an) Sense of Humour
ao) Valuing ethics
ap) Accepting Challenges

Please specify along with the range
…………………………   …………………………………………
…………………………   ……………………………………..

9. a) In your opinion, do the fresh engineering recruits suit your company in terms of attitude?
     Yes   No   Can't Say
b) If no, what do you look for?
   Positive Attitude   Negative Attitude
   Neutral Attitude   Others (please specify)…………

10. a) Do you suggest any training for developing positive attitude of engineering students during their college time?
            Yes   No   Can't Say
   b) If yes, what kind of training do you suggest?
   _____
   _____
   _____

11. During the Recruitment Process, Do you find that Engineering Graduates possess the required Competencies to meet the expectations of Industrial Needs?
            Yes   No   Can't Say
 12. If No, in your opinion, what are the Competencies they lack?
   _____
   _____
   _____

13. What additional efforts are required to bring the competencies of fresh recruits to your desired levels?
   _____

14. What kind of Competency Development Programs do you have in your company?
   _____

15. What is the amount of time and cost (optional) invested on this competency development programs?
   _____

16. Instead, Do you prefer to have Fresh Engineers fully equipped with all the required competencies?
   Yes   No
17. What approach & criteria you adopt while recruiting fresh engineering candidates?
   _____

18. With the above approach and criteria being in place, do you find competency gaps still existing among the fresh engineering recruits?
   Yes   No   Can't Say
19. If Yes, to bridge the perceived competency gap, in your opinion, what changes / additional inputs do you expect from the institutions / Academics at large to make today's students more industry-ready / employable?
a)   Change in the curriculum in association with Industry experts
b)   More Industry – Institution interaction
c)   More laboratories and hands-on experience
d)   Guest lectures by industry experts
e)   More seminars and conferences
f)   Industry oriented skill training
g)   Live Project in an Industry
h)   All of the above
i)   Others………………………………………………………………………………………
20. Any other suggestions (to Academicians and Students) to improve the competencies of Engineering students, so that they are employable while meeting the Industrial requirements…………..

Signature

Date:

REQUEST FOR FEEDBACK

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