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Employability: Ingredients, Enhancement and "Market Requirements"

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Abstract- The concept of employability has been in the literature for many years. Current interest has been driven by the changing nature in public employment policy, with increasing emphasis being given to skills-based solutions to economic competition and work-based solutions to social deprivation. It is supposed there is end of 'careers' and "lifetime job security", which have, of course, only ever applied to a minority of the Workforce, the greater uncertainty among employers as to the levels and types of jobs they may have in the future, and the need to build new relationships with employees is the need of the hour. The paper discusses at length, the ingredients of employability and the "Type of Engineers" the industry is looking for. To ensure continued employment and smooth transition from one "employment to another", engineers must follow the principles stated in this paper.

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I. INTRODUCTION

a) Employability: A definition

While there is no singular definition of employability, a review of the literature suggests that employability is about "work and the ability to be employed", such as:

- The ability to gain initial employment; hence the interest in ensuring that 'key skills', careers advice and an understanding about the world of work are embedded in the education system
- The ability to maintain employment and make 'transitions' between jobs and roles within the same organization to meet new job requirements, and
- The ability to obtain new employment if required, i.e. to be independent in the labour market by being willing and able to manage their own employment transitions between and within organisations.

It is also, ideally, about:

The capacity and capability of gaining and maintaining productive work over the period of one's working life.

II. THE INGREDIENTS

1. Honesty and integrity.
2. Basic literacy skills.

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3. Work Alcoholic.
4. Reliability.
5. Being hardworking and having a good work ethic.
6. Numeracy skills; Numeracy is the ability to reason and to apply simple numerical concepts. Basic numeracy skills consist of comprehending fundamental mathematics like addition, subtraction, multiplication, and division. For example, if one can understand simple Mathematical equations such as, $2 + 2 = 4$, then one would be considered possessing at least basic numeric knowledge.
7. A positive, 'can do' attitude.
8. Punctuality.
9. The ability to meet deadlines.
10. Team working and co-operation skills.
11. System Thinking.
12. Multi- Disciplinary
13. Continuous Learning
14. Focussed Professional
15. Live- Wire and Hardcore Technocrat.
16. New Kind of Engineer
17. Be a smart Worker (Hard Worker?)
18. Fear free Working.
19. Be "TROUBLE SHOOTER".
20. Business acumen.
21. Leadership skills.
22. Decision-making.
23. Negotiating/Influencing skills (Win-Win and not Take it or Leave it).
24. Trouble shooter.
25. Innovation Led.
26. Salute your work.
27. Basic oral communication skills (e.g. telephone skills).
28. Sychophants Vs Critics.
29. Simplicity- Professional and day to day Conduct- An Asset
30. Be original
31. Attitude for gratitude.
32. Body to "wear out" and "not tear out".

III. CHALLENGES

Engineering has a common language across the world, and a common goal – improving the quality of life. Never before in time has the world, and indeed India required the services of this fraternity to work on the challenges posed by our times:

Firstly, while our country has made great advances in the field of science and technology (our nuclear capabilities and the recent launch of Chandrayaan bear testimony to this), we face a challenging time at present.

Secondly, while the global ICT ecosystem is helping to build a more inclusive society, we still face basic problems including poverty, illiteracy, low agricultural productivity, unemployment and disease. India needs its best minds to address these problems

Thirdly, at a global level, we have callously abused the abundant resources of the planet, disturbing the delicate balance of nature. Nature is now fighting back. Collective action of scientists, governments and engineers across the world is called for to address this issue. Addressing these three issues are the biggest challenges faced by the engineers today. Fortunately, most engineers love challenges; in fact, they thrive on them. Today we are empowered with new knowledge and new tools, including IT, which enable new solutions. The scale and enormity of these challenges demands multi stakeholder models involving IT experts, domain experts, businesses and the government to come together in private-public partnerships.

IV. ENHANCEMENT OF EMPLOYABILITY (TALENT)

Corporate India is becoming professional; it is also eager to go global, in several industry sectors. In the sunrise sectors, the scale and ambition of vision are very different from what they were about a decade ago. As these sectors transform themselves, there is a golden opportunity for professionals to lead this transformation, build world-class companies, and create enduring value. Along with this are financial gains. The opportunities available in India, are in fact luring Indians working overseas back home, to join Indian companies.

IIT Bombay undertook a study on the engineering landscape in India. The study aimed to answer questions such as:

- Has the engineering education system been able to provide, quantitatively and qualitatively, the engineers required for the growth of the Indian economy?
- Has it provided the research and development leadership required for our industry?
- In the context of globalization, is there a need to modify the higher engineering education system in India?

The study shows that against the Graduate Engineering education in sanctioned seats of 6.57 lakh for Under graduate engineering education in India, only

2.37 lakh engineering degrees were awarded in 2007-08. This very clearly highlights the shortfall. In 2006, India awarded about 2.37 lakh engineering degrees, 20,000 engineering Masters degrees and 1000 engineering PhDs, which means a total of 2.58 lakh engineering degrees of all types. This is clearly not enough! The awarding of degrees is also not evenly distributed across India. Five states – Tamil Nadu, Andhra Pradesh, Maharashtra, Karnataka and Kerala are said to account for almost 69% of the country's engineers. It is estimated that about 30% of the fresh engineering graduates are unemployed even one year after graduation; and this is even as many sectors complain of lack of talent. This clearly points that there is definite scope to improve quality of engineering education. Let us also look at the gender factor. At IIT Bombay, the percentage of women graduates to the total is about 8% at the B.Tech level, 9% at the M.Tech level and about 17% at the Doctoral level including Science, Humanities and Management. Similar disparity exists among the faculty – only about 10% of the IIT Bombay faculty comprises women.

a) *New Kind Of Engineer*

Globalization has enabled a new place for India, the challenges facing our country are new, and the market is highly dynamic and complex. In this scenario, the industry demands a new kind of Engineer

b) *Systems Thinking*

This complexity demands a new way of thinking – it requires a Systems Thinking approach to macro level challenges and requires Engineers to keep one eye on the big picture even as they tackle specific tasks. Systems thinking provide a conceptual framework that helps make full patterns clearer and helps one to see how to modify these patterns more effectively. As Peter Senge says, it is a *"discipline for seeing the whole"*. This type of thinking is tricky to most of us because we are taught to break problems apart, to fragment the world! This appears initially to make complex tasks more manageable; but we pay a hidden price: we can no longer see the consequences of our actions, and we lose our intrinsic sense of connection to a larger whole. When we want to see the big picture, we try to reassemble the fragments and organize all the pieces. The task is futile– *similar to trying to reassemble the fragments of a broken mirror!*

c) *Multi-Disciplinary Approach*

Today's Engineers must also be able to view management activities through different lenses and work with people from different disciplines and diverse fields such as business, banking services and medicine. Even the software development process can incorporate complementary techniques from other disciplines. The great advances of recent times – nano devices, telecommunication communications and genetic

engineering – affirm that these come about from people who understand engineering systems as a whole.

Lecture, delivered at the 23rd Indian Engineering Congress.

d) *Innovation-Led Growth*

India's future growth will be driven not by cost but by innovation in terms of product offerings, process efficiency, value engineering and cost reduction. This has resulted in areas, such as, **engineering design** and **product development** becoming a focus. ¹You may have heard about the 170 Teraflop supercomputer EKA, Asia's fastest and till recently the fourth fastest supercomputer in the World, built indigenously in the city of Pune. An interesting innovation has been achieved in the architecture of this supercomputer. Normally, rows of computer racks have alternating hot and cold aisles, cold air seeps through perforations through the floor, cooling the blades and coming out as hot air through the hot aisles. In the case of EKA, the racks were with another concentric circle arrangement for coolers which blow arranged in a circle cool air directly onto the blades and into the centre. ***The resultant hot air is sucked out from the ceiling. This way the cooling is far more efficient, uses less power and the winning point is that the whole set up could fit into a 4000 sq ft area. Simple, but ingenious!*** We have proved the point ***"We can do it"***

V. TRAITS THAT IMPRESS EMPLOYERS

- Honesty and integrity (93%)
- IT skills (85%)
- Reliability (85%)
- Ability to work in teams (82%)

VI. CONCLUSION

As far as talent is concerned, we are ***second to none*** in the world and our people have done miracles and excelled in every field. ***Recent developments in world like the selection of "Chief of Microsoft" and the news item "Nokia has picked up Rajeev Suri as next CEO" are the examples where we have demonstrated our "Unquestioned Technical Supremacy" and proved that we are "second to none".*** Only thing to worry is we are victim of corruption that has penetrated in to our life like a cancer.

We, as a nation, will certainly tackle it. India needs ***Innovation led, Multidisciplinary, Live Wire Hardcore technocrat and New kind of System Thinking-Smart Engineer.*** Mind it we have ***the potential to produce the stuff still better. There is no place for complacency and disappointment in our scheme of thinking and we will do it.***

REFERENCES RÉFÉRENCES REFERENCIAS

1. S Ramadorai: *Chief Executive Officer (CEO) & Managing Director (MD) Tata Consultancy Services (TCS)* 30th Sir Rajendra Nath Mookerjee Memorial