

Guest Editorial

Kaushik Mukherjee, IAS
Principal Secretary
Department of Higher Education, GOK

Soft Skills and Hard Talk



It is household knowledge that Bangalore accounts for almost half of the country's software exports. However, these days, India's Silicon Valley wears its laurels gingerly like the proverbial crown of thorns. The once loved techie finds himself at the receiving end being blamed for all the ills of this sprawling metropolis. Apples are expensive, because the guys from Infosys and Wipro are gobbling them up. The round the clock traffic jams happen because of the undisciplined "yellow plated" cars of the BPO units. Every weekend, the tables at all the eateries are captured by laptop wielding upstarts. Short of holding him responsible for a poor monsoon, our software guy is blamed for everything! Going back to his office he finds scant comfort and faces ever ballooning targets to keep the dollars flowing. Is our honeymoon with the software industry over? But then, all honeymoons usually stabilize into "not so exciting" marriages. Once the novelty and euphoria wear off, a sunrise industry's real challenge is to constantly renew its focus as also its bag of tricks.

Ironically, the most formidable challenge faced by the software industry, is the enhanced public (read stock market) expectation stemming from its own phenomenal growth. The rapidly widening base of the software industry itself restricts runaway growth. Even maintaining the same percentage of growth requires an exponential increase in turnover. This requires trained manpower to be fed to the industry in the same manner as coal is fed to the fire tender of a steam engine. Can our present system of schools and professional colleges produce the millions required by our software industry? Or should they? There is a raging debate about the inability of our engineering colleges to meet the demand of the software industry. Even those who come out eager to find their place at a keyboard are found wanting in certain essential skills. There is now the talk of setting up thousands of "finishing schools" to polish up the new entrants in the manner of an assembly line.

Should there be at least some introspection about the skills that are really required in the software industry? The vast majority of companies visiting engineering college campuses are seldom interested in the student's grasp of thermodynamics or his familiarity with finite element analysis. They are looking for those elusive "soft skills" which are generally present in city lads with a good upbringing! This is where the whole problem lies. Just because a computer is an engineering product does not necessarily mean that you require a qualified engineering graduate to run it productively. It is like the assumption that an automobile engineer would drive a car best! The art of programming can be acquired by any person capable of thinking logically, irrespective of his or her academic background. There appears to be a very strong case for broadening IT education into the domain of liberal arts to get programmers with good soft skills. Engineers, on the other hand, could be used to drive a software company up the value chain and foray into areas of designing complete scientific and engineering solutions.

There were always those saner elements in the software industry who talked of increased value addition per person as opposed to increasing the number of persons to increase turnover. But then, increasing numbers was so much easier. Unlike manufactured products, the software industry did not require better ports and roads to move their goods. The good old dish antenna pointing upwards did the trick. The real spanner in the works came in the form of a strong rupee which threatened to squeeze their margins. 39 has become a dirty number. Though the industry has been crying hoarse about the rampaging rupee to garner sympathy, they have been quietly setting their house in order. More sales to Europe, tapping the domestic market and concentrating on more complete projects rather than modules seem to be doing the trick. The Q3 of the software giants have seen genuine inroads into the domestic market. The absorption of software solutions in the domestic market augurs well for increased productivity in our manufacturing industries and services. One fondly wishes there were more complete software packages for the general market from these companies. After Tally, the tally hasn't increased much!

Surviving and successfully competing in the market on lower costs is only possible in the short run, but increasing value addition is the key to more sustained growth. A very good parallel in this country is the case of two industries: the American diamond (cubic zirconium) industry and the real diamond industry. The American diamond industry took root in this country because of the low labor costs. In less than 5 years we were out priced (and out produced) by poorer countries. On the other hand the real diamond industry, which started out in Gujarat also on cheap labor, quickly became a highly skill-oriented versatile industry which now works on all kinds of stones with consummate expertise. They imported the best machinery available, used sophisticated software to get the largest number of finished stones from the roughs and competed with the best finished products out of Tel Aviv and Antwerp. During my last visit to Antwerp, I learnt of a guy from Gujarat who was actually designing and exporting sophisticated machinery back to Europe. The bottom line is that genuine buyers most often do not question the price of a Benz car and are least likely to be interested in its mileage!

What can be done to IT education in engineering colleges to help the software companies through the painful transition? There has always been a demand from the companies that the colleges revamp their syllabi to bring it in tune with the times.

Contd..

Assuming that engineering “knowledge” doubles every 4 years, even the most up-to date syllabus would produce only “half baked” engineers at the end of 4 years! But then good engineering education is about training a student to acquire sound fundamentals so that acquiring further knowledge does not become intimidating. Consider the fact that so many of the present day CEOs of the software companies did not hear of the internet or the CD-ROM during their days at the IITs. In those days 10 MB on a hard disc was a massive amount of storage. These guys have done pretty very well for themselves considering that they fed on such a vintage curriculum! This does not mean that the syllabi of our courses should be frozen for posterity. Changes should be brought to challenge the thinking of young minds while keeping them solidly down to earth on fundamentals. Could someone start classes on Literature History, Sociology, Art Appreciation, Economics, Political Science and such others that make engineering graduates more human, or should we say more soft skilled!?

Kaushik Mukherjee

From Chairman’s Desk



The Emerging Employment Contract between employers and employees is in many ways very different from that in the past. Sumantra Ghosal, Christopher A. Bartlett and Peter Moran point out that “unlike machines, people cannot be owned. Yet like machines, the way they become most valuable to a company is by becoming specialized to the company’s business and activities”. They also observe that “without employment security, employees hesitate to invest their time and

energy to acquire such specialized knowledge and skills that may be very useful to the company, but may have limited value outside of it”. There are other implications as well. “While the company benefits from such specialization directly, in terms of efficiency and productivity, it also benefits indirectly because the more specialized an employee becomes to the unique requirements of the company, the less attractive they become to other potential employers”.

Over the past decade, this moral contract has broken down. Companies all over the world have pursued efficiencies through downsizing and outsourcing strategies that have abandoned policies of providing secure employment. Much of the blame for the breakdown of the traditional psychological contract has been placed at the doorstep of greedy management. However, it is not management but the market that has made the traditional contract non-viable. In a stable world, the old contract would work. However, “in a dynamic world, a source of competitive advantage in one period easily can become not just irrelevant but a source of competitive disadvantage in some future period”. “Core competencies become core rigidities”.

In the emerging employment contract, “each employee takes responsibility for best-in-class performance of the part of the company to which he/she belongs, and commits to a continuous process of learning that is necessary to support such performance amid continuous change. In exchange, the company undertakes to ensure not the dependence of employment security but the freedom of each individual’s employability”.

Jack Welch has described the new employment relationship at GE thus: “The new psychological contract..... is that jobs at GE are the best in the world for people, who are willing to compete. We have the best training and development resources, and an environment committed to providing opportunities for personal and professional growth”. The new moral contract represents a fundamental change in management philosophy – from seeing people as a corporate asset from which value can be appropriated, to seeing them as a responsibility and a resource to add value to.

Intel’s Andy Grove emphasizes: “No matter where you work, you are not an employee. You are in a business with one employer – yourself – in competition with millions of similar businesses worldwide.... Nobody owes you a career – you own it as a sole proprietor. And the key to survival is to learn to add more value every day”.

It is also being emphasized that significant investments in training and development must be made by companies to protect and enhance the employability of individuals as much as to increase the productivity and efficiency of the company; to support their broader, general education and not just to advance their job-specific skills. Anita Roddick of the Body Shop says: “You can train dogs; we educate people”.

Motorola considers its key resource of competitive advantage to stem from recruiting and retaining the best graduates from leading schools in every country in which it operates. More recently, Motorola has launched the “Individual Dignity Entitlement” (IDE) program to underscore its commitment to employability. This requires all supervisors to discuss, on a quarterly basis, six questions with everyone whose work they supervise:

Contd..

- i. "Do you have a substantive, meaningful job that contributes to the success of Motorola?"
- ii. Do you know the on-the-job behavior and have the knowledge base to be successful?
- iii. Has the training been identified and been made available to continuously upgrade your skills?
- iv. Do you have a personal career plan, and is it exciting, achievable, and being acted upon?
- v. Do you receive candid, positive or negative feedback at least every 30 days which is helpful in improving or achieving your personal career plan?
- vi. Is there appropriate sensitivity to your personal circumstances, gender and/or cultural heritage so that such issues do not detract from your success?"

Ghosal et al have also explained what the new contract is *not*:

- It is *not* a catchy slogan to free management from a sense of responsibility to protect the jobs of their people.
- It is *not* an altruistic contract to help educate and develop people at company cost, so they can then find better jobs elsewhere.
- The contract based on employability is *not* some program that can be installed. It is a very different philosophy that requires management to commit itself.

Prof. R. Natarajan

Faculty Development Workshop On Microsoft Technologies

**Venue: PES Institute of Technology, Bangalore
&
BVB College of Engineering, Hubli**

Date: October 11-13, 2007

Sponsor: Microsoft India

Hosts: PESIT & BVBCE

On the 11th of October 2007, as a part of an Education MoU signed between Microsoft Corporation and BITES, a three day faculty training workshop was conducted for faculty members of BITES member colleges. This training was simultaneously conducted at two locations; PESIT in Bangalore and B.V.B College of Engineering in Hubli.

About 45 faculty from over 20 colleges participated in this workshop which aimed at enhancing the technical skills of the faculty by giving them an in-depth perspective of the latest technologies from Microsoft.

The topics covered included:

.NET Framework 2.0,
Visual Studio.NET
SQL Server 2005
C# Development tools
WAP Developer
Windows Development
XML & Web Services
ADO.NET
ASP.NET

In Bangalore the training was conducted by Microsoft's Training partner Quartz Systems, while in Hubli it was conducted by a member of Microsoft's Academic Team.

The training consisted of theory classes in the forenoon followed by practical sessions in the afternoon. Faculty members were given extensive hands on training on aspects related to installation, configuration, and application development etc; involving the latest tools from Microsoft Technologies. Faculty members were also given free software, E-books and also publications from Microsoft press which can serve as useful reference material.

The MoU that was signed is meant to focus on enhancing the skills of faculty and students and making students more aware of the latest tools and technology being used by the industry, so that they are better employable by the IT industry once they graduate out of colleges.

Faculty members who were trained would now be responsible to assist students during the Training and Hands on Lab Sessions that will be conducted by Microsoft during the month of February. They would also be in charge of mentoring the students during their projects.

A total of fourteen student training workshops have been planned at fourteen different locations. A project portal has also been exclusively set-up for students to register. Student teams along with faculty guides can submit online project proposals. Microsoft and BITES have also constituted a network of mentors who can assist students during their project work.

Faculty Development Workshop On Oracle Technologies

Venue: MSR Institute of Technology, Bangalore
Date: January 07-12, 2008
Sponsor: Oracle India
Host: MSRIT

As part of the MoU signed between BITES, Oracle-India and DTE, Oracle Corporation had agreed to conduct faculty training workshops for 100 Polytechnic Lectures in Database Design and programming with SQL and PL/SQL in two batches.

The first batch of training for 50 faculty members was conducted during January 21-27, 2007 and thirty seven of them got certified by Oracle. In the second batch another 50 polytechnic lecturers were selected for SQL training; further thirty seven faculty members who were certified in SQL were also selected for second level of training in PL/SQL.

For the second batch of trainees, nine weeks of online training program was conducted during 29th September to 12th December 2007. This is an innovative program in which the participants have to work in close coordination with adjunct instructors through emails and weekly web chat sessions that were scheduled on every Saturday at 7:45 am for 90 minutes. During these chat sessions the adjunct instructor will answer any queries related to the topics under discussion.

The chat sessions provided an opportunity for faculty members to interact, share and explore their ideas and turned out to be a huge success. The online chat sessions were followed by weekly home work assignments, quizzes, practice sessions and then mid-term tests and final examination.

Participants qualified in online training were provided an exclusive one week instructor lead training by Oracle Corporation during January 7-12, 2008. The faculty development workshop was conducted at MSRIT who provided three state-of-the-art computer labs with support staff for conducting the Classroom Training.

During this training instructor from Oracle Academy reviewed the contents taught during nine week online training followed by practice sessions, group wise Data modeling, project presentation by faculty members and finally an exit examination.

Thirty two participants out of thirty seven got qualified in PL/SQL and thirty two out of 50 in SQL. Course completion certificate from Oracle Academy was awarded to these participants on the closing ceremony held on 12th January 2008.

The goal of this program is to help the students studying in polytechnic institutions to learn Data base Design and programming skills as well as vital business and professional skills such as leadership, team work, problem solving, project management skills and provide competitive edge for students entering the job market in the IT industries.

The program is expected to benefit the students studying in Computer Science and Information Science branches of over 100 polytechnic colleges in the state of Karnataka