

Reinforcing academia – industry ties VIT hosts Summit on Cloud Computing and Big Data

In the currently globalized world, the paths of the corporate and academic world are intertwined in a big way. Always tuned into the latest technological trends, Vidyalankar believes in sharing a symbiotic association with the industry by networking and forging alliances. Vidyalankar Institute of Technology recently hosted a one-day summit on Skilling up for Mega Trends In IT – Cloud Computing, Big Data 2012 on 14 September. The event, a confluence of academic and industry personnel served as a forum to discuss on the role educational institutions can play to make the students ready for megatrends like Cloud Computing and Big Data. It had a three-fold agenda comprising an overview of these technological advances, the increasing industry demand for them and also to initiate a consortium of Institutes for sharing resources and best practices by strengthening inter-institute interaction.

The event was sponsored by EMC2, under the EMC Academic Alliance program, and intended to address the skills gap resulting from the growing volume and complexity of IT data. It was well-attended by Principals, Heads of the Computer and Information Technology Departments and faculty who teach the subject ISMDR at various Institutes affiliated to the



University of Mumbai.

Dr. G.T. Thampi, Principal, TSEC, Ex-Chairman Board of Studies was the Chief Guest. In his keynote address he emphasized on how networking of educational institutes with industries will help to strengthen both. The other dignitaries included Mr. Manoj Chugh, Regional President of EMC, Mr. Mandar Marulkar, KPIT Cummins, Mrs. Seema Shah, Principal (Actg), Vidyalankar Institute of Technology, Mr. Kameshwar

Hello Readers!

Are you tuned into the latest happenings in our nation and across the globe? In this issue of Vector our writers take you through a mixed bag of events that have kept you glued to the TV news channels and probably made you thumb through many magazines and newspapers! Read on and keep on contributing your articles, reviews and inputs as usual on vector@vidyalankar.org.

Meenakshi Nandula
Coordinator

N.V, Head IMS Processes and Talent Development L&T, Dr. J.W. Bakal, Chairman Board of Studies (IT), Mumbai University Mrs. Radha Shankarmani, Head (IT) SPIT.

Some of the ideas which were deliberated upon in interactive sessions and panel discussions were on the need to bridge the gap between academia and industry, recognizing that information management is a key pillar of the IT industry and the importance of partnering with the right kind of people. Prof. Seema Shah elaborated on the measures that all institutes can take at various levels for strengthening institute interaction. Technology is ever-evolving and to move ahead in tandem, there is no disputing the fact that organizations need to transform as new trends and new skills emerge.

Think of butter and an image of a round eyed, chubby-cheeked little girl in a polka dotted frock, offering a slab of golden yellow butter comes to your mind. She is the Amul moppet everyone loves to love, always leaving a smile on one's face with her witticisms and tongue in cheek comments on everyday issues. Established in 1946, Amul is owned by the Gujarat Co-operative Milk Marketing Federation Ltd. (GCMMF) and is based at Anand in Gujarat. Amul was responsible for the White Revolution in India and Dr. Verghese Kurien is considered to be the architect and the Father of this movement that saw India's phenomenal progress from a milk-deficient nation to the largest milk producer in the world. Dr. Kurien breathed his last on 9 September 2012.



The White revolution or Operation Flood was carried out by implementing the "Amul Model" which includes three levels of operation.

The taste of India...



The Dairy Cooperative Society at the village level is responsible for the collection of milk and supplying it to the Milk Union which operates at the district level. The Milk Unions

store, process and manufacture milk and milk products and transport them to the State Federation which in turn is responsible for the marketing of the products. Each orga-

nization is responsible for providing financial assistance to its lower body as well as milk sales within their regions. This model was introduced by Amul which soon replaced the then

successful Polson dairy to become the largest producer of milk and milk products in India.

In 2011 Amul was named the Most Trusted Brand in Food and Beverages in India. It has the largest milk handling capacity in India and an annual turnover of about 53 billion rupees. The Govt. of India has honoured Amul with the "Best of all categories Rajiv Gandhi National Quality Award" and it has won the APEDA award for eleven years. Amul's advertisements are hugely popular and unique; although some of them have faced political trouble, they are all unarguably intelligent and eye-catching.

A variety of dairy products like cheese, butter, milk, ghee, yoghurt, buttermilk etc. are produced under the Amul banner. These products are exported to about 40 different countries. Amul is the largest producer of vegetarian cheese.

Amul has provided employment to the masses and has grown into a huge organization in the last 60 years. It has gained the trust and goodwill of millions of people and will continue to do so and grow in the years to come.

Sanhita Joshi
(SE EXTCL, VIT)

FDI in the Retail Sector

The economic reforms of 1991 opened up India for foreign investment and in September 2012, one more round of reforms was announced by Dr. Manmohan Singh. One of the important policy decisions taken during the current phase of economic reforms is allowing up to 51% foreign direct investment (FDI) in multi-brand retail sector. This has opened up the Indian gates to foreign retail chains like Wal-Mart (USA), IKEA (Sweden), Carrefour (France) and TESCO (UK).

There has been a severe reaction and opposition to this decision from one corner. But the Government of India has been firm on going ahead with it. Major points of criticism include: the uncertain future of ‘kirana’ shops, unemployment among the small shopkeepers and traders, promotion of foreign brands at the cost of Indian brands, wide spread consumerism among middle class and standardisation at the cost of diversity in the local markets.

It is necessary to understand the issue thoroughly before arriving at any conclusion. The Indian economy is already facing an economic slowdown, which according to Kaushik Basu (Chief Economic Advisor to the Union Finance Ministry) is not because of the economic fundamentals, but because of the negative mood. An announcement such as allowing FDI in retail could help in shifting the mood in a favourable direction. Supermarkets such as Big Bazaar and Reliance Stores have already been established in Indian cities but there hasn't been a noticeable negative impact on the local shops. This is because the Indian retail market is huge in size and is growing rapidly with increase in per capita income of the people. Even if the for-



eign companies invest in the retail sector; they will not be able to capture a very big part of the market.

The FDI in retail sector is not allowed unconditionally. There are many conditions to be fulfilled by a company which aspires to invest in Indian retail markets. For instance, they are allowed only in the big cities (with population more than 10 lakhs), they need to invest 30% of

their capital on infrastructure, they have to sell at least 30% of local products, at present, they can invest only up to 51% of the capital (which implies that the remaining capital will be subscribed by an Indian company).

The current kirana shops are a part of the unorganised sector. There is no control over the quality of grains they sell, they may not be paying taxes, they employ workers (sometimes even

children) who may not be paid according to the Minimum Wages Act. Supermarkets, on the other hand, will be a part of organised sector; they will pay taxes, they will provide better and professional working conditions for employees. Perhaps the most important beneficiary of the whole exercise would be the farmers who may get reasonable prices for their products as these supermarkets will buy directly from them and then the chain of middlemen will vanish.

As per a World Bank study, FDI in retail sector will give a boost to food products, textiles and garments, leather products, etc. Consumers will also be the gainers. They will get more variety of products at cheaper rate. As per the economic theory, more the competition, lower is the monopoly profit to sellers and hence more is the advantage to the consumer class.

In the era of globalisation, India needs to encourage professionalism and modernisation in all sectors. While countries like China, Brazil, and Russia are going far ahead of us in implementing their economic reforms, we need to think rationally on the issue. To conclude in the words of Dr. Manmohan Singh, “In 1991, when we opened India to foreign investment in manufacturing, many were worried. But today, Indian companies are competing effectively both at home and abroad, and they are investing around the world. More importantly, foreign companies are creating jobs for our youth - in Information Technology, in steel, and in the auto industry. I am sure this will happen in retail trade as well.”

Dr. Rohini Kelkar
Principal, VSIT

The FDI battle rages on...

Reform is imperative, and when the situation calls for it, must be acted upon without hesitation. Since 2011, the UPA government has been caught in a storm over allowing FDI in the country, which escalated with the Mamata-led Trinamool Congress backing out of the UPA and other allies withdrawing support. Unfazed, the government went ahead and implemented its decisions to permit Foreign Direct Investment, in the face of a national bandh on the 20th of September.

Many observers have likened the situation to the 1991 Liberalization reforms, undertaken by Dr. Manmohan Singh as Finance Minister. Even then, the government came under fire on the grounds that India would become the playground of MNCs and that the foray of computers (read IBM) would result into massive unemployment. It is interesting to see how that tale has turned out 20 years down the line. India is an IT superpower generating almost 3 million jobs, the License Raj dying out to make way for the Tatas, Reliance and other Indian groups to become MNCs themselves.

The rupee has been stagnating since months, reaching an all-time low in June this year. A credit downgrade was imminent, with the huge national deficit not getting any narrower. In times like these, it is encouraging to note the Prime Minister pushing for economic reforms in the face of stiff opposition, even if it means he might lose power.

In India, FDI has been permitted in the retail, aviation, and broadcast sectors, FDI in retail being the most debated upon. The present situation is something thus - farmers sell their produce to the middlemen, who transport it to the wholesale mandis, from where the produce is sold to the retailers and consumers. In this entire process, it is not uncommon to note the price the consumer pays to be nearly 10 times



the amount the farmer was paid.

Expectedly, Corporate India welcomes the FDI with open arms. Retail chains make up a measly 4% of the \$450bn retail market in In-

dia. It is the belief that the entry of foreign retailers would increase investment in back-end infrastructure, with the ubiquitous Walmart introducing newer and better technologies as well

as logistical needs, which by itself is a massive job generator. Better infrastructure will reduce rotting of produce and ensure rapid transport.

The advantages of FDI in retail are manifold, with the customer getting his bang for the buck with fresher products priced considerably lower than the local kirana, and for the first time enabling direct farmer-retailer trade. Elimination of the middleman from the equation and efficient transport will considerably bring down costs, thereby reducing inflation of food prices. This hypothesis would fail only if the foreign retailers go the conventional way - buying from the same mandis as the kirana walas do.

Opponents of FDI claim that this move would systematically eliminate thousands of jobs. That it will cut into existing hierarchy of trade is not wrong; however, it has the potential to drastically improve it. The middlemen have a golden opportunity to work with a multinational and provide logistical support. The retail market is gigantic and ever-growing; there is enough space for foreign and domestic retailers to flourish.

One potential brickbat is the problem that countries like USA are currently facing. In 2004, Wal-mart spent \$18 billion on Chinese goods alone which accounted for 10% of the total US trade deficit with China. In 2006, this number had risen to \$27 billion. The government has taken note of this and added a rider which restricts international sourcing to 70%. Walmart has ventures with factories in China, Cambodia, and Honduras, and although this translates into cheaper goods for the consumer, this will increase imports greatly - a deeply undesirable situation.

Dr. Singh has in the past taken decisions which have been instrumental to India's success stories. It has taken a good two decades to reap the benefits of the 1991 policies. The allowance of FDI in the country is a welcome move, but it must be carefully regulated to ensure against the undermining of the economy.

Suraj Subramanian
SE IT (1) VIT

Time is Money — Spend it Wisely!



Randy Pausch was an American professor who taught Computer Science and Human-Computer Interaction at the Carnegie Mellon University. He was known for the many lectures he had given, specifically “The Last Lecture: Really Achieving Your Childhood Dreams” as he was diagnosed with pancreatic cancer and the doctors explained that he didn’t have much time. One of his other well known lectures was on “Time Management” that he presented at the University of Virginia on November 27, 2007.

Pausch was an intellectual who was humorous and courageous, cracking jokes while offering valuable advice on life and giving insights into his areas

of expertise. In his time management lecture, he gave a number of ways in which people can work out and plan their activities and thus get more things done and be able to spend more time for their leisure or with their loved ones.

Some of the strategies that are popular include the four quadrant priority deadline rubric and the idea of keeping time journals which help to keep a check on oneself and shows us what we actually do (and can do) with the time we have on our hands.

It is said that procrastination is the thief of time. Learning to say no, (especially if interruptions threaten to derail one’s schedule) delegating work, decluttering our workplace, prioritiz-

ing using “to do lists” and then deciding on making time for the important things based on their opportunity cost are some more lessons that will help a person to effectively manage time.

As he explains, nobody has more or less time but it is how one uses his time that gets more or less of his work done. One more gem that we all need to remember is that vacations should be vacations; it’s not a vacation if you’re reading email! Of course, planning is essential to success and as he says, “Failing to plan is planning to fail.” Let us all continue to learn and better ourselves from Randy Pausch’s timeless wisdom.

Prof. Seema Shah
Principal (Actg), VIT

Virtualization: Transformation of Computing

Virtualization is the technology that is changing the scenario of computing very rapidly and hence is giving ‘Midas touch’ to our lives. Millions of people and thousands of organizations around the world utilize the ‘Virtualization Solution’ to reduce the IT cost while increasing the efficiency, utilization and flexibility of their existing computer hardware.

Virtualization is creating an illusion of a computing resource through the use of actual resource with the motive to have more number of resources available for use. Full virtualization, Partial virtualization and Para virtualization are main types of platform virtualization. In full virtualization, a guest operating system runs on host machine without any modifications or whatsoever. The Virtual Machine Monitor (VMM) or hypervisor keeps each virtual machine independent and unaware of other virtual machines running on same physical machine. Partial virtualization enables the simulation of multiple instances of much of the underlying hardware. It supports resource sharing and process isolation. Para-virtualized environment allows operating system to run on a specific virtual machine after modifications in the source code.

The VMM or hypervisor is the core technology that enables us to run multiple guest operating systems (virtual machines) on a single host operating system seamlessly. Calls to the hardware from guest operating system are replaced with calls to the VMM, which interacts with the hardware and directs the output

properly. In order to deploy virtualization successfully the only thing prerequisite is to have VT-x enabled Intel processor or AMD-V enabled AMD processor. We can use various virtualization software such as Xen, KVM, VMware, Oracle Virtual Box etc. to set up one or more than one virtual machines on existing host operating system irrespective of the actual hardware of the physical computer. This software encapsulates the entire virtual machine into a single folder in the file system of the host computer.

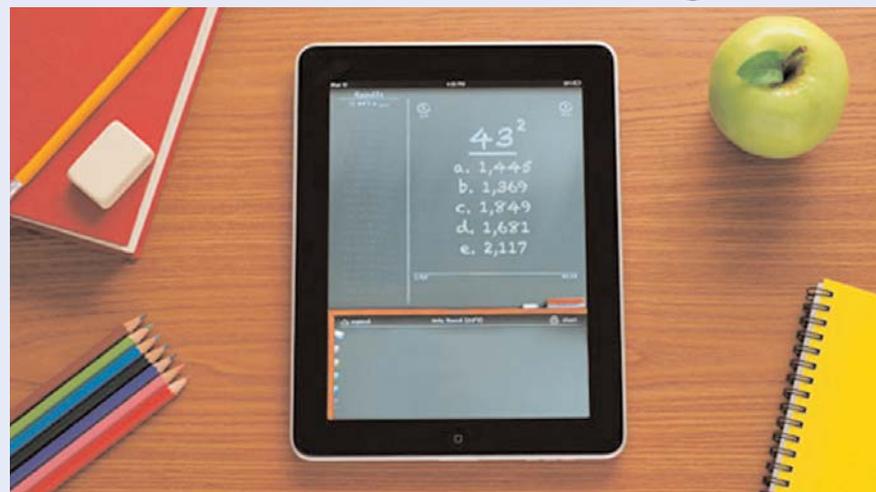
Apart from personal computer users virtualization is also used for servers in order to exploit the processor capacity to its fullest. Virtual machines are used to consolidate many physical servers into fewer servers thus, reducing the number of actual physical servers and infrastructure needed. This makes the process of backup and recovery very easy. As in case of failure of any node, any virtual machine can easily take over the load of that particular server. Virtualization is becoming the smart choice even in the industry for IT solutions. By

combining virtualization with cloud computing we can even overcome the hardware limitations as well by availing the platform as a service. Thus we just need any computer with access to internet to create the virtual machine having desired hardware configuration irrespective of the hardware configuration of the physical computer. Virtualization has brought about radical changes in our computing lives and will continue to do so.

Indrayani Nishane
Faculty, VSIT



Importance of Different Methods of Learning



Shahzada had spent her whole life in Kashmir. But a few months back, along with five other teachers, as a part of an innovative teacher-training programme, they came all the way from Bandipore to Greater Noida’s Step By Step school, looking for better opportunities and to give a better future to their students. Her story is among hundred others which are highlighting the shift in traditional methods of teaching done in India.

The Indian education system is often criticized for the quota system, marking schemes, rote learning, etc. Newspapers carry articles suggesting the system’s output is unemployable by the industry. But how much attention is given to the methodology of teaching in India? India is a developing country and its student community is envied by the developed nations for dominating the outsourced jobs. In such global dynamics, India has to improve upon its education system and that’s where innovation in teaching methodology kicks in.

Most of us were educated in a system that focused very heavily on learning facts. Even as we say that 21st-century citizens and workers need to be able to think critically, solve complex problems, and work in teams, we assess the progress of students in terms of what they know. If we are serious about educating a generation of geo-literate citizens, it is important that we break down our own out-of-date views about learning and replace them with new images of how we should educate young people and what kind of knowledge and skills we should be aiming for.

Most children find studying from textbooks

an extremely boring and cumbersome pursuit. This is where technology can help out a lot. We’ve seen experiments where notebooks have been replaced by iPads and multi-touch screens have replaced black boards. This approach helps in developing the imaginative capabilities of the children and also makes textbook lessons far more interesting. It also exposes the students to the newest trends in the educational marketplace like apps and digital bookstores.

The need for education is higher than ever. In this computer age, the children are more than willing to learn new things. The mode of imparting knowledge should be delicately and carefully decided. With industries demanding more practical knowledge than theoretical, this needs to be addressed immediately. We can’t afford to lag behind in such cases. It’s for the best of the students if they can understand the practical applications along with the theory. This will drive the students to further examine the subject instead of ‘rote learning’ it.

With new methods applied in education, Indian students will be able to match up to the global standards. With the human resource available in India, the opportunities are immense to make this possible.

Akshay Elavia (SE CMPN 2) VIT

Ref: <http://www.esri.com/news/arcnews/winter0910articles/the-importance-of.html>
<http://timesofindia.indiatimes.com/city/mumbai/Scripting-new-methods-of-teaching/article-show/153947.cms?>

Give me (iPhone) 5!

The new iPhone 5 is finally official. Apple has surprisingly named its sixth-generation smartphone the iPhone 5. It is 7.6mm thin and 112 grams in weight making it the lightest and the thinnest iPhone ever. Sadly, Apple which is known for surprises didn't give any, as the rumours and leaks which are always around the release time of a new iPhone device every year, turned out true this time.

The most noticeable feature is the increase in size to 4 inches from the 3.5 inch in the iPhone 4S, but all this by still maintaining the same pixel density and hence the 'Retina Display'. Another one being the noticeable reduction in the thickness, it is 20% thinner than the previous version. The new iPhone has super-fast LTE connectivity and dual-band wifi giving it very high browsing speed capabilities. The dual-tone back on both the white and black iPhones look way better than the older versions. The 20% reduction in the weight is due to use of glass parts in place of aluminium parts, and using substitutes of the internal parts.

The iPhone still retains the same 8 megapixel iSight camera as in the iPhone 4S. The iPhone 5 has a processor which is twice as much



faster than its predecessor when it comes to graphics as well as processing. It packs in 1 Gigabyte of RAM which is going to make the

new phone snappier and faster. It has a new Lightning Port which is of 8 pins as opposed to the 30 pin adapter and its reversible hence saving the hassle. Another notable feature is that it contains a Nano-SIM which is a much smaller version of the already small Micro-SIM. The iPhone 5 has practically all the components 20% thinner than the respective parts in the iPhone 4S including the battery. But it still gives the same battery life (or even more in some models) as that of the previous version.

As always, this time, Apple didn't succeed to surprise us like they have been doing since 2007. The iPhone 5 hardware combined with the near perfect iOS 6, makes the device truly fantastic. The iPhone broke sales record with 2 million online orders on the first day itself. The first batch of devices was delivered on 21 September in USA. Indian release for the iPhone 5 is slated for November 2012 with the price expected to burn a hole in the pockets of customers. But no one can resist the device, it's simply amazing.

Ref:

<http://www.apple.com/iphone/>

Pradnesh Patil (SE CMPN 2), VITsadsfadsf

Know your City



Know your City - Crawford Market

“One can get almost everything at Crawford Market” - mind you, this is not an overstatement any sorts but just the plain simple truth. Crawford Market was originally named after Arthur Crawford, who was the first Municipal Commissioner of the city and was later rechristened to Mahatma Jyotiba Phule Mandai after Mahatma Jotirao Phule who was a noted activist and social reformer. It was built in 1871 and is adorned with a fountains designed by Lockwood Kipling - father of the renowned novelist, Rudyard Kipling. It was also the first building in India to be lit up by electricity in 1882.

The market sits right opposite the Mumbai Police Headquarters and just North of the Chhatrapati Shivaji Terminus railway station making it extremely accessible and prominent. The entire market covers an area of about 24,000 sq feet. Inside one can find anything from exotic fruits and vegetables, dry fruits, baking goods, and toys to all your favorite imported chocolates, cheese (including my favorite Camembert!) various food items, pets, and poultry as fresh as ever (unrelated to the pet store of course!). The best thing about the place is that although it's stuffed with both indigenous and a lot of imported ware, the shopping experience is truly 'desi' - one can bargain wholeheartedly!

All the shopaholics will immensely enjoy themselves but just keep these two things in mind - firstly, carry a couple of bags that will be substantially large to contain your uncontrolled shopping and secondly, even though the market is surrounded by Municipal Pay-and-parks, don't even dream of finding a parking spot.

Rayner Vaz
TE CMPN (1), VIT

We Care - Eye care



The lamp of the body, is the eye” - the Bible says and rightly so and we need to take utmost care of our window to life and the world around us. Here are 5 quick tips:

1. Blink as much as you can, and as often too! Blinking is the natural 'self-cleaning' process of the body in which tears are uniformly spread over the cornea and conjunctiva for moisturizing and cleansing of the eye. The eye tends to dry up faster when in front of a screen or while concentrating during reading or studying.
2. All of the lights - proper lighting is paramount when it comes to eye comfort. Reading in low lit environments can seriously strain the eyes and cause irritation or pain.
3. Not just carrots - Sure carrots are rich

in vitamin A, but that's not the only the only nutrient your eyes need. The chances of suffering from Vitamin A deficiency are very low. However, green leafy vegetables like spinach are abundant in Lutein, which studies have shown can reverse the effects of macular degeneration (loss of vision in the center of the vision field). Also, Omega-3 fatty acids, found largely in fish, can help prevent dry eyes.

4. Kick the butt - There are much higher chances of a smoker developing eye/vision related problems than straight out cancer. Smoking increases the risk and accelerates the development of cataracts, macular degeneration and optic nerve damage according to Dr Ivach, a leading researcher at the Glaucoma Research

Foundation, San Francisco CA.

5. Get the right sunglasses - Good sunglasses don't come cheap. And more often than not, we are tempted to buy cheaper yet equally 'good looking' ones. However, they lose their purpose. Sunglasses, if not 100% UV blocking, are practically useless. You might as well walk around in the sun without them as your eyes will be harmed just the same. In fact, due to the sort of placebo created by wearing such eye wear, we tend to spend more time in the direct sunlight. And we all know what UV can do. So, although a slight burden on your wallets, a good pair of sunglasses are always beneficial for the eyes.

Rayner Vaz
TE CMPN (1), VIT

Aptitude Corner

- 1) Look at this series: 80, 10, 70, 15, 60, ... What number should come next?
A. 20 B. 25 C. 30 D. 50
- 2) In what ratio must a grocer mix two varieties of tea worth Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at Rs. 68.20 a kg he may gain 10%?
A. 3:2 B. 3:4 C. 3:5 D. 4:5
- 3) M is the father of N who is the son of V. In order to know the relation of M to P, which of the statement/statements is/are necessary?
1. P is the brother of V.
2. The daughter of N is the granddaughter of V.
A. Only (1)
B. Only (2)
C. Either (1) or (2)
D. (1) and (2) both

(Answers: 1 A, 2 A, 3 A)
Ameya Gharpure, Vidyalkar