Making Tigers of Dinosaurs: Roadmap for Reform of Indian Universities to create Sustainable Knowledge Capital in the era of Globalization.

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Introduction

Knowledge Capital refers to combination of instructional capital - knowledge that persons, communities, organizations exploit to predict, create or avoid futures they deem desirable or not, and individual capital - an inalienable or personal traits of persons, such as creativity, courage, capacity for moral example, invention or empathy, personal trust and leadership. Globalization has placed businesses everywhere in new and different competitive situations where knowledgeable, effective behavior has come to provide the competitive edge.

The purpose of this paper is to look at readiness of Indian Universities system to provide this knowledge capital that is necessary to the holistic development of Indian Society. The withdrawal of state support to universities has resulted a resource crunch. This is in addition to ever-present problems of poor faculty, low pay, obsolete curriculum, an emphasis of learning by rote and overcrowded classrooms. Using anecdotal evidence, feedback from educators and academics we try to present a roadmap for the reform for one of the largest university systems in the world. The Indian university system today, depending on the way you see it is either in a state of collapse or is poised for unprecedented opportunity and growth.

Sustainable Knowledge Capital in era of Globalization

Knowledge and learning are social activities, by which we evolve ourselves as individuals and communities. Interaction between individuals with other individuals, communities, organizations, and knowledge artifacts, is the source of knowledge creation, sharing and utilization. Books, databases, lists of "best practices", helpdesks, etc … do not have the capacity to act. They are "information", not "knowledge." They are important; they contribute to and influence our capacity to act. They influence our knowledge; yet they are not knowledge and do not posses or hold knowledge. People do. Universities do.

In perfect world, this knowledge being generated by country's intellect should be applied to its resources to meet citizens' needs and maintain environmental balance within National Boundaries. But in last 200 years knowledge of science & technology have broken these boundaries through unabated growth in modes of transportation & communication. Due to this infatuation in new technological developments to add to our lifestyles, the underlying principle of POWER is now defined by a capacity of a Unit that can generate constant growth in knowledge capital and can maintain access to earth's natural resources and markets.

In current state of affairs, no doubt, the country with an efficient system of creating knowledge capital about technology & resources through its temples of higher education can position itself in world matters but it is very clear that its Universities need to take a more holistic approach towards creating sustainability of its people & resources.

Lets take India. This country, too is slowly adapting to this approach – the result has been some economic growth but the divide between the rich & the poor has become larger, with cities where more than half the population live in unbelievable slums. In addition the economic progress has

been achieved by disappearing cropland for more and more cities, disappearing biodiversity and increasing wastelands. So, the key question is what is Sustainable Knowledge Capital that Indian Universities needs to bring to the surface – it is *knowledge that encompasses ethical regeneration with economic awareness & environmental balance to effectively utilize for the holistic development of a self-organizing adaptive society in this global village.*

University Education & Sustainable Knowledge Capital

Knowledge exists in ecosystems, in which information, ideas, and inspiration cross-fertilize and feed one another. The higher the diversity of a natural ecosystem, the more robust it is and stronger its chance is of survival. The same applies to knowledge ecology. Suggestive features for university education to develop sustainable knowledge capital are:

- ❖ TECHNOLOGY CAPACITY: Build Capacity in interdisciplinary research, understanding complex systems, dealing with irreducible uncertainty and to integrate across the fields of knowledge for technological innovation and diffusion in both the private and public sectors.
- ❖ ENVIRONMENT AWARENESS: Collect & Analyze reliable key datapoints on the state of ecosystems and biodiversity to match the technology & scientific progress of the last decades in documenting the state of human development.
- ❖ SOCIAL LEARNING: Contributing information, options and analysis that facilitate a process of social ethics.

Current State of Indian Universities

There are today 200 universities, 8,000 colleges, 5 million students, and 27,000 teachers in higher education. The figures are high and impressive, but the first casualty of the expansion phenomenon is the quality. In the post-Independence era, the Indian Institutes of Technology, consciously patterned after the Massachusetts Institute of Technology in the U.S., received substantial overseas help right from the outset. With support from four donor nations, the five IITs benefited from guest faculty from outside of India, the ability to send Indian faculty for training abroad, and contributions of modern laboratory equipment and facilities. The Indian Institutes of Management established similar international links: IIM/Ahmedabad, for example, still maintains strong connections with the Harvard Business School. Except these APEX Quality Institutions, more than 90% Universities are providing paper degrees mainly to meet qualification criterion in government jobs and such education cannot be considered knowledge capital. Perhaps the most recent innovation in Indian higher education, the Indira Gandhi National Open University (together with similar, state-sponsored Open Universities), drew heavily on the UK experience with distance education and the Open University concept. But majority of institutions of higher education in India are suffering. Three main issues are:

ABSENCE OF STRATEGIC PLANNING

The process of shifting the focus of research away from the universities to the then newly created national research laboratories started in the 1950s. Even at that time, voices against this movement, notably that of Professor M.N. Saha, were ignored. The universities were isolated from the place of work as well as from funds. An estimate in the late 1960s put the research expenditure per annum by an academic scientist at Rs.6,000. The corresponding figures for the Indian Council of Medical Research (ICMR), the Council for Scientific and Industrial Research (CSIR) and the Department of Atomic Energy (DAE) were Rs.16,000, Rs.45,000 and Rs.72,000 respectively. In time the universities became institutions exclusively meant to produce teachers

for the then expanding base of educational institutions. Research at universities, therefore, became purely academic and - owing to the enforced isolation - esoteric. What we are now witnessing is the terminal stage of this process, which makes universities irrelevant to society.

In 1995, the University of Delhi appointed a high-powered committee headed by Dr. Abid Hussain, with a brief to restructure the university radically to make it more job-oriented. Instead, the prevailing mindset into suggesting simplistic solutions such as starting new "job generating courses" within the existing framework sidetracked the committee. It ignored the warning that the major bottleneck in a proliferation of such three-year degree courses would be manpower. Out of several such courses that were suggested, the information technology (IT) courses were involved in the most serious controversies. But it still lacks:

- MISSION: What are we trying to accomplish?
- COMPETITION: How do we gain a competitive edge?
- PERFORMANCE: How do we deliver the results?
- CHANGE: How do we cope with change?

At the University of Delhi most of the time has been spent in creating the physical infrastructure. One has not even started handling the major bottleneck of manpower training. In fact, the number of teachers available on any sort of a stable basis is only 0.8 per college as against a requirement of six to teach 75 students in three different years of a three-year degree course. Lets see the population matrix.

POPULATION MATRX ON KNOWLEDGE CAPITAL:

		Total			Rural			Urban	
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
	2	3	4	5	6	7	8	9	10
Total Literates (in '000s):	359,324	229,560	129,763	226,144	151,216	74,928	133,180	78,344	54,836
Per cent Literates who are:									
Below Primary	25.2	23.8	27.8	29.2	27.2	33.2	18.4	17.1	20.4
Primary but below Middle	28.7	27.3	31.4	31.6	30.1	34.8	23.9	21.9	26.7
Middle but below Matric	20.9	21.2	20.4	21.0	21.6	19.7	20.8	20.5	21.3
Matric but below Graduate	19.4	21.3	16.0	15.5	17.7	10.9	26.1	28.3	23.0
Graduate and Above	5.7	6.4	4.5	2.7	3.4	1.4	10.8	12.3	8.7

While the in-country availability of desired courses at the undergraduate level may not be a major factor in the student mobility equation, the limited capacity of India's institutions to meet the demand for post-graduate education in particular fields may be a more serious problem.

RESOURCE MODEL INADEQUACIES

Except for a couple of private universities, the national or a state government finances all universities. The students pay a nominal fee that constitutes less than 10 percent of the budget of the institution. Thus, higher education is currently heavily subsidized. Faced with a severe

resource crunch, the government and the University Grants Commission (UGC) are encouraging colleges and universities to generate their own funds and ultimately become self-reliant - an utopian idea.

GOVERNMENT SPENDING ON CREATING KNOWLEDGE CAPITAL

Item	1998-99	1999-2000	2000-2001
Primary education	27.80	28.54	36.11
Secondary education	9.23	11.37	12.30
Adult education	0.97	1.13	1.24
Development of languages	0.69	0.81	0.97
General education scheme	0.46	0.50	0.60
"A" – (1 to 5)	**39.15**	**42.35**	**51.22**
University and higher education	22.35	23.93	21.29
Technical education	8.78	11.06	11.06
"B" – (6 + 7)	**31.13**	**34.99**	**32.35**
"C" – Total Education Budget (A + B)	70.28	77.34	83.57
"X" – Total Revenue Budget	2102.42	2371.09	2810.98
"A" as proportion of "X"	**1.86%**	**1.78%**	**1.82%**
"B" as proportion of "X"	**1.48%**	**1.47%**	**1.15%**
"C" as proportion of "X"	**3.34%**	**3.26%**	**2.97%**

Source: Government of India Expenditure Budget Volume 2 1998-99, 1999-2000, 2000-2001

The concept of privatizing higher education is being advocated in view of the changing economic policy of liberalization and globalization launched in early 1990s. The latest issue in the debate on financing higher education is that norms of funding are being revised and institutions may receive reduced grants. The academics and the educational administrators, on the other hand, have expressed a strong feeling that government must not abandon its responsibility of liberal funding of higher education. However, there is consensus in favor of upward revision of fee structures and the creation of a fund by the institutions through donations and other sources, for the development of the institutions. Policy of Privatization is mainly political and to satisfy some investor lobbies who seek profit from education and ignore it as knowledge based Capital.

ADMISSION SYSTEM

Human intelligence is uniformly distributed irrespective of class, race, religion or social factors and follows the "bell curve", means that, a small number of people in any population will be highly intelligent, most of the people will be of average intelligence and small number may be below average. The incidence of high intelligence is not hereditary, but very random.

It is also well known that the demand for "seats" at India's apex institutions for Indian students in highly competitive fields such as engineering and management vastly exceeds the supply. Reservation policies, designed to ensure educational opportunities for disadvantaged groups within Indian society, further limit the in-country slots available for students from forward caste backgrounds. To a certain extent then, foreign universities provide a safety valve for talented, well-off Indian students who cannot find seats in their chosen fields within Indian institutions.

If 85% of India's white collar work force come from just 15% of the upper and middle class people but as per the bell curve theory in any given population there will be only about 5% brilliant people so 5% of 15% how much does that come to? What does this "mean"? It "means" majority of India's so called "brilliant" university graduates are "mediocre" people, who got a "walk over" (with out any real competition) into these citadels of higher education because majority of the brilliant people where "shackled" with vernacular education.

This may be the real reason for all around patchiness that exist in India. What else can we expect when majority of white-collar work force is "mediocre" people who pretense as geniuses. These mediocre people have high aspirations because they "believe" that they are all brilliant people since they did the higher education courses.

In short, India needs a University reform that brings a holistic approach to solve problems of *course planning, resource crunch & selection of students.*

Roadmap of Reform

The Challenge to Education (1985), a document produced by the Ministry of Education of the Indian Government states that "the whole process of higher education has become warped, disoriented and dysfunctional, producing a number of unemployable young men and women."

The latest reform attempt is the New Education Policy of 1986 (modified by the Parliament in 1992), which repeated what the earlier commissions had stated. But the problems of India's higher education system seem to defy solutions. The system still remains at the margin.

University needs to transform into developers and disseminators of knowledge in the emerging medium. The mission of the research university may be expanded from the theoretical goal of increasing knowledge to one actively concerned with both increasing knowledge and sharing the benefits of that knowledge with its immediate community

Here are four ways to improve:

❖ PURPOSE: the separate community, industry and education missions into a cohesive whole that seeks to benefit the development of society for e.g. better understanding of use of country's resources tied with scientific & economic progress.
❖ SPEED: Harness the intellectual capacity at the University to encourage the systematic development and innovation of digital media in teaching and learning.
❖ DISTRIBUTION: Build educational resources meant for distribution beyond campus & licensing University content to start-ups for development of knowledge-based resources.
❖ COLLABORATION: Joint research and greater interaction between scientists and academic community. The idea is to promote greater usage of the more expensive labs which are not being used much; while facilities which are not so expensive and are being used need not be shared. The aim is to pool in resources for maximum efficient use

Understanding India's education systems contributes to the larger understanding of this complex nation's diverse society. General trends and averages concerning social conditions on a national level may not adequately describe how human activity is expressed spatially and temporally in specific areas. The great variations in local environmental and social conditions require that national and state or union territory programs aimed at improving the quality of life not adhere too strictly to any one standard plan. Local climate, topography, and drainage patterns all need to be considered in terms of how they relate to local forms of land use and ethnic and linguistic

groupings. Increasing urbanization in India also complicates efforts at monitoring local conditions. Only with the full support and understanding of India's many rural and urban residents will new ways of focusing India's immense human resources toward the goals of developing and conserving renewable natural resources, limiting population growth, providing increased health care, and achieving education for all be successful.

This paper is just the beginning and in no way demonstrates the full scope of problems.

Thanks

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