

# A blueprint for design education and practice: using emerging technologies and traditional knowledge systems to widen design's constituency in India

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## **Introduction - envisioning the past as a cultural inventory for designing in future:**

Not too long ago, in 1998, the Government of UK established the Arts and Humanities Board (AHRB) as a leading funding agency for applied and pure research in the arts and humanities (with an annual programme budget of 50 million pounds to reach 65 million pounds by 2003-4).

Specific to our interest here are two aspects: (i) the inclusion of design along with art as a companion subject; and (ii) the *raison d'etre* for setting this up - primarily as a recognition of the strength of the so-called *creative, cultural and heritage industries* in the UK over the past decade (*Paul Gough, The impact of government funding on art and design research in the United Kingdom - some case studies, Bangkok 2001*). Quoting AHRB to explicate the value of scholarly activity in the arts and humanities, Gough explains that "the arts are a fundamental underpinning to our society and culture. They affect every citizen in numerous ways and they remain an essential foundation for a modern democracy and economy."

## **The basic proposition - emerging technologies and the possibility of networked schools and networked products:**

Rewind from 1998 all the way back to circa 46 BC when Cicero said in his 'Orator': "to be ignorant of what occurred before you were born is to remain always a child. For what is the worth of human life, unless it is woven into the life of our ancestors by the records of history?"

In this paper, we use Cicero's meta-question as an underlying premise to ask our own contextual questions:

*(1) Can the existing schools of art (some of them quite antiquated, going back to a hundred years) continue to serve as nodal agencies for the study of our cultural heritage?* With their usual locations, historically, in the smaller non-metropolitan cities of India (and sometimes built under royal patronage), these centers have come to be representative of practice-based traditional knowledge systems such as the crafts and textiles, and could combine great academic and practice-value for us. It is this constituency that the art schools have historically tied up with, that we need to acknowledge as their inherent strength.

*(2) Can we link these art schools with newer and more modern institutions such as schools of design, through forward and backward integration between art and design, via the networking technologies?* This would arguably infuse fresh blood into the schools of art since the schools of design are relatively new in origin (post-Independence, 1947 onwards), usually located in the metropolitan cities of India (the million plus cities), and economically more vibrant. However, design schools have taken some years now to build into their natural constituencies (industry, services, entertainment) and continue to remain distended from a larger socio-economic reality. Tying up with a symbiotic sector could introduce robustness to design's constituency of end-users.

*(3) Can we inform products from the traditional domains with emergent knowledge systems and technologies* relating to processes, materials, packaging, storage and marketing - skills that are expectedly located along the expertise-axis of design (and the occasional management) schools? In other words, can we synergise the constituencies related to art-school practices with those of design school practices?

*(4) And finally, after inducting information technology (IT) to network the art and design schools, can we also ensure that IT is further leveraged, this time to network products arising out of the traditional practices with the more sophisticated (and export-driven) markets located in the big cities?* Needless to say, it is this advanced market network that already addresses the products emerging from design practice.

By connecting with wider markets, products emerging from the skills-driven, art-based practices (weaving, traditional crafts, metal work, bamboo, paintings on textiles, toys, educational kits, etc.,) could enjoy a smoother product-to-market-run scenario and subsequently, better pricing/profitability.

Since the above product category characteristically suffers from indifferent and uneven quality, initiatives rooted in design schools could help inform these products with modern processes, eventually lending these products with standardization in quality control, thereby, plugging a major supply chain bottleneck in quality and supply consistency. (case in hand: a 73 piece bamboo-kit to facilitate the productionising of bamboo crafts and being used in North-East India).



### Potential stakeholders for the proposed networking:

The potential stakeholders for the proposed blueprint would be the following:

(i) institutions of learning - design and art;  
(ii) those involved with the practices of art and design, viz., those with the skills as well as those that convert these skills to products. Given the reality in India, a large proportion of this category will conceivably include practitioners (from the fields of art and, occasionally, design practice) without the formal training. It is these foot soldiers with skills and innovations, practising at the grassroot-level, often outside of institutional support with regard to training or production that will constitute the focus of this paper.

#### *(ia) Design schools and professional practice - distended from a larger reality:*

As already mentioned, design schools in India are a product of post-Independence years (1947) and have come to be located in cities of colonial and post-colonial origin. This pattern of location is not a matter of accidental. It is related to the fact that these cities (viz., Delhi, Ahmedabad, Mumbai, Pune, Calcutta, Bangalore, Hyderabad and Chennai etc.), with relatively **high growth rates** (2.5-3.5% per annum), are perceived to be the bustling, modern centers of commerce and power. Their basic **connectivity** is embedded in the great railway network (the largest in Asia), air transport and ports. These contain the institutions of modern learning. And some of them have particularly come to be associated, in recent years, as centers of information technology-related services (housing the Asia/India headoffices of companies like Microsoft, Intel, Hewlett-Packard and Texas Instruments)

With such obvious **access to industries, markets and infrastructure**, not surprisingly, therefore, most of the design schools (catering to the disciplines of product design, graphic design, fashion design, jewelry design, textiles and interior design, and of late, web and interaction design), have located themselves in these cities. Some of the well-known design schools in India are as follows: NID, and CEPT in Ahmedabad, IDC in Mumbai, Shrishti and CEDT in Bangalore, NIFT in Delhi, and programmes of design at the IITs located in Delhi, Guwahati and Kanpur.

Design schools are also a product of privileged funding from the government in India. Perceived by policy-makers as a modern discipline capable of making a difference to the everyday lives of people through better living, the government has been forthcoming with funding, wherever applicable. Additionally, since India's first step towards marketisation in the early nineties, privately funded schools have come up on the back of a middle-

class urban perception that design could hold the promise of a reasonably good career.

However, design schools continue to remain distended from the larger reality of society. While part of the reason is statistical - India produces 100,000 engineers and close to 5,000 architects, but only a thousand design graduates, of which there are only a hundred industrial designers. The stunted growth in design as a discipline in India was at least partly engendered by Nehru's vision of a mixed/socialist economy that saw design as a tool for development rather than as a strategy for the market. And partly because a lot of engineering products produced in India through the sixties, seventies and the eighties were licensed under collaborative agreements, which reduced the need for indigenous design initiatives ('Design as a Strategy for a Developing Economy', Working Paper for Ministry of Human Resources Development, Government of India, prepared by IIT Bombay, 1985, p.90) The statistics throw up some basic questions. Why is the number of designers so small? What is the impact of this discipline on the development issues facing the country? Is it because of traditional knowledge systems that modern design practice is not yet a felt need in India? Or is it that the modern schools need to integrate traditional knowledge-systems into the folds of their constituencies?

*(ib) Art-school practices and their direct links with crafts and traditional knowledge sector products - a clearer case of local stake holdings:*

In contrast to the distended reality of the design schools and their as yet lack of a robust practice-based constituency, a very large reality of India's living practices of the arts, the crafts and cultural heritage continue to reside in the comparatively smaller cities and towns of much older lineage (historically dating back to the pre-colonial days and exemplified by centers such as Baroda, Benaras, Hyderabad, Lucknow, Mysore, etc.). Cities that continue to nurture crafts of various hues and, coincidentally, have housed some of the major art schools of the country - some of them of great repute.

Unfortunately, policy makers in India have not been able to see a connection between art education and art-based practices as being capable of spawning *creative, cultural and heritage industries* as in the UK. These practices, extending into the crafts, textiles, metal, wood and bamboo workings among others, represent a range of products that could easily constitute the very glimpse into our heritage and yet provide a historicity of everyday life as lived out earlier and which continues to move on, albeit changes.

The net outcome of the government's inability to buy into the natural and cultural inventory created by the arts across the decades has been poor funding and a neglect of these art-based practices. Everyday, yet another family of craftsmen with skills inherited across the centuries, packs up bag to move into the urban wilderness in search of an economic opportunity perceived

to be better than in the rural areas.

Creating alliances between art and design education and practice through the networking technologies could concomitantly create an opportunity for a revival of these art schools. More importantly, given the fairly large practice-based constituency attached to the arts (in the crafts and cottage industry sector), a concomitant role for the design schools to revamp antiquated production processes with modern, efficient ones.

This could naturally beg the question about who manages the practices of the arts and the crafts? Are these the NGOs? The farming co-operatives? Other local initiatives? Would it, therefore, require resourcing and networking at the grassroots level (as opposed to institutional level)?

## IV

### **Genesis of our proposition: VCTEL-NPTEL (educational) and Honey Bee (grassroots) as early workable networking models for the proposed blueprint:**

Although the idea of connecting up the practices of crafts with design has a historical basis in India, with a crafts-art-design axis a living reality of more vibrant proportion in the local economies of earlier times, but never really extinct or functioning too far away from the subterranean. It is only with the arrival of the new media technologies in the mid-nineties to the late-nineties that a nationally integrated and networked knowledge base seems anywhere in sight. This networking would take the following shape:

- (a) a shared *digital resources library*, and
- (b) a set of *virtually collaborative communities* generating ideas and products across the networking technologies in the foreseeable future.

We outline, here, two technology-enabled networking initiatives as pioneering instances from India as, indeed, the developing world itself - one relating to institutional networking support, the other a grassroots level support.

**(i) VCTEL/NPTEL as a model for institutional networking:** In September 1998, a consortium of some of India's most prestigious schools (seven Indian Institutes of Technology (IITs), four Indian Institutes of Management (IIMs) and the Indian Institute of Science (IISc), all located across the country, got together in a decisive act of academic solidarity to investigate possibilities of connecting up their entire lot with highband Internet connectivity [*The initial meeting was held under the auspices of the Carnegie Mellon University (CMU), USA given its distance education experiences in Mexico. The idea was for the Directors of these schools to agree upon a statement of intent to network across their respective schools.*]

Apart from such a networking aiding *inter-Institute transfer of material and learning resources for research and teaching*, what was being proposed was a VCTEL (Virtual Centre for Technology Enabled Learning) that would allow other *less privileged educational setups around India to access high quality education software* from the IIT's and the IIM's and make it a part of their own curriculum. It was reckoned that compared to the cost of having to individually fund schools around the country to afford them respectable levels of proficiency, such a networking could conceivably effect massive upgradation at a fraction of the costs envisaged for real time upgradation.

Having been intimately involved right from the inception and planning stages (Sept, 1998) to its ultimate first- phase funding by the MHRD, GOI (early 2003) under a new name National Programme for Technology Enhanced Learning (NPTEL), author Prof. Poovaiah, hereby, submits that we are standing at the threshold of a networking model that augurs promisingly well for a similar networking endeavour along another axis. This time, between centers of art education, design education and their respective constituencies. Which would consist of a spectrum of both art-based and design-based practices viz., (i) the craft-products (ii) products rolled out from manufacturing plants (iii) products that involve signage systems (iv) printing, (v) publishing, (vi) graphic design inputs, and (vii) intangible products such as software-related/interface-related/digital-related.

*[ While the IIMs were eventually taken off the ambit on technical grounds, it was IIT Madras, under the stewardship of its present Director (then Dean, Academic Affairs), Professor M.S. Ananth, along with the main author of this paper, Prof. Ravi Poovaiah, IIT Bombay., Prof. Paul Goodman, Director, Institute for Strategic Development and Ashish Arora, faculty, CMU, USA, who were instrumental in formulating a framework for VCTEL and then fleshing it out with details, followed by feedback from members of the other IIT's]*

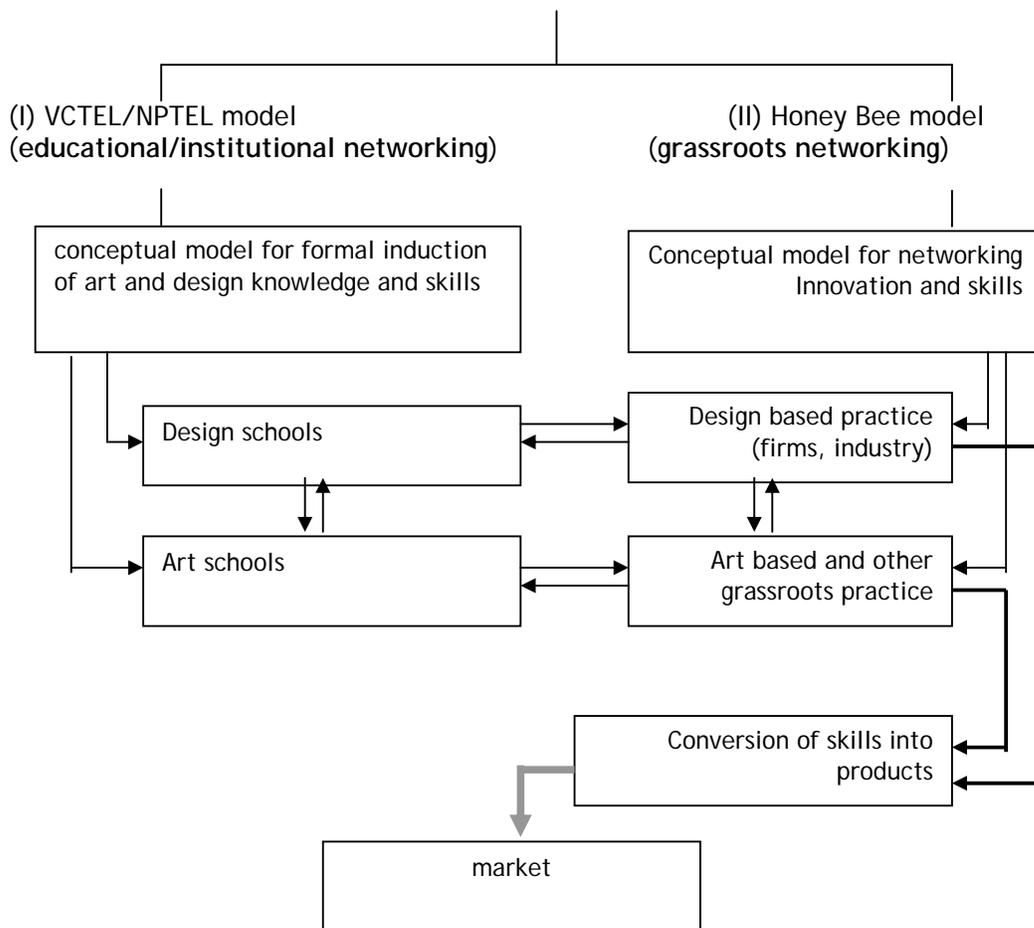
(ii) **The case of the Honey Bee - never a dull moment at hand as a model for grassroots networking:** Starting off about a decade ago as a quarterly newsletter for scouting innovations from farmers, artisans, women, etc., at the grassroots level, Honey Bee today contains a database of over 10,000 innovations, collected and documented by an NGO called the Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI). As well, the networking is technologically enabled and upgraded to multimedia capabilities to overcome barriers of language, literacy and localism to connect innovators, entrepreneurs and investors across a much wider geographical territory.

What could be of interest to us is the government-funded National Innovation Foundation (NIF), to manage and support Honey Bee efforts by building *a national register and database of innovations, and linking local innovators with science and technological experts*. NIF will also set up a few incubators at leading academic institutions and other locations for converting innovations into viable business solutions. In its third year of

running, NIF has already moved from 1600 ideas of innovation to 13,900.

The question is, could this initiative be leveraged to facilitate the crafts-based innovations and productions as well? Spearheaded by Prof. Anil Gupta at the Indian Institute of Management (IIM), Ahmedabad, "the thrust of Honey Bee/NIF has been to build a knowledge network on what people at the grassroots know and do well". As well as to facilitate communication among creative farmers, artisans and other grassroots innovators, besides scientists, activists and political leaders. By including the arts-based grassroots practices (with the overlapping ones already), we could only expect to make the networking more robust.

**A blueprint based on conceptual models for networking design and art schools and design and art-based practices:**



**(iii) RuralBazar (conceptual model for products networking)**

Any institutional-cum-grassroots networking emerging from the suggested conceptual models will result in (i) collaborative assignments between schools; (ii) documentatio- tion of skills,

expertise and innovations; (iii) networked resources library as an outcome of documentation; and (iv) linkages between practitioners and the market.

We would like to make a quick allusion to 'RuralBazar', an Internet based solution, that addresses the marketing needs of rural artisans and offers a solution towards providing better visibility and sale of their products. RuralBazar has been developed by the National Informatics Centre (NIC) of the Ministry of Information Technology, India.

## V

### **In conclusion - technology as an investment towards building up social capital:**

At various levels of abstraction, moving from the lowest upwards, we have a series of issues here. At one level, it is almost stating the obvious that design needs to establish stakeholders to make itself relevant. In the West, designers have an understanding that the same "materials and methods" that could be so profoundly boring as an industrial design curricula designation, could begin to look like the soul of design in the hands of the master craftsman teacher. In India, we take this for granted perhaps because so much of our designing is already so sinuously linked to the crafts as to be almost imperceptible.

Which, in perspective, would mean that a meaningful way to perceive ourselves (given our own way of life and history) would be not just through economic measures but "by other measures of success that rival economics, and that is in the arts, in culture, and in education. (Galbraith on his views on Indian identity, 1998).

And finally, given this perspective about what really matters, we need to re-examine our 'weltanschaung' (worldview) itself in terms of our new opportunities in India, viz., technology. And ask the question: could we use technology as a tool for community engagement? That is the central issue behind the proposed blueprint - to view technology as an investment in social capital built through community engagement.