
ITIHAASA POINT OF VIEW

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UNPRECEDENTED CHALLENGES AND OPPORTUNITIES FOR HIGHER EDUCATION

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This viewpoint is featured also on the website of Universiti Teknologi PETRONAS (UTP), Malaysia.¹

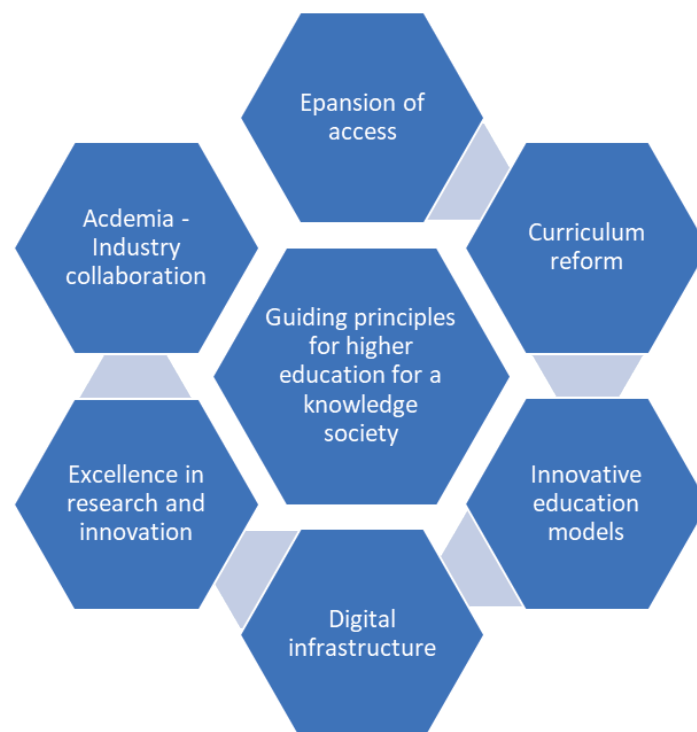
The education sector has long been resistant to a wide-scale adoption of technology. But COVID-19 dramatically accelerated the shift towards digitalized learning, and the pandemic led to the world's largest experiment with remote learning. Post-pandemic, university campuses thronged with students.

Universities have learnt a number of lessons from these experiments. For instance, i) they have to determine learning situations which are more appropriate for on-campus engagements and ones that are more suitable for online interactions; ii) IT infrastructure and educational support (such as instructional design and tools for student engagement) are required to enhance the online learning experiences. At the same time, these infrastructural demands have led to an issue of digital divide, among students and universities; and iii) Training efforts are required to facilitate changes in mindsets and behaviours among faculty and students. (For more insights on the education sector in a post-pandemic, post-digital world, you may refer to some work of my non-profit research organization, itihaasa Research and Digital – Education X-verse Innovation.²)

Overall, the universities have discovered the power of digital learning and the resilience it brings to their business model, and are exploring hybrid models of education. Thus, each challenge can also become an opportunity for higher education institutions (HEIs).

Guiding principles of the higher education model of the future

Let me offer you a simple framework to understand the guiding principles of the higher education model of the future.



¹ <https://www.utp.edu.my/Pages/The-Latest-Detail.aspx?news=334>

² https://itihaasa.com/public/pdf/Education_X-verse_Innovation-final.pdf

1. HEIs must focus on expanding access to a wider section of the society, and globally. How can they offer quality education at affordable costs?
2. The innovative curricula of all HEIs should include projects beyond the traditional subjects and in the areas of community engagement and service, environmental education (climate change, sanitation, biodiversity management etc.), and value-based education (ethics, scientific temper etc.). How can they collaborate with multiple institutes to create a global citizen, with students studying and learning from multiple countries and cultures?
3. Along with flexible curricular structures, creative combinations of study, integration of vocational education and multiple entry/exit points will provide a good architecture for higher education in the coming decades.
4. HEIs should embrace digital platforms for virtual delivery of their content, create Massively Online Open Courses (MOOCs), and enhance their digital presence through third-party global online learning platforms.
5. HEIs are also research institutions. They must start measuring systematically and then enhancing the ease of doing research. They should create internationally collaborative centres for advanced research and innovation with public-private-plural-philanthropic partnerships. The research should be multidisciplinary – for instance, if the focus on SDG 11, sustainable cities and communities, then the research should focus on energy (including renewable energy and EVs), water and waste-management, mobility management, health, citizen-participation, behavioural economics and so on. The research focus should include translation and applying research outputs for the benefit of the society and building global, affordable solutions.
6. HEIs must collaborate closely with industry, which is looking to reskill its employees to flourish in a rapidly changing world. Education is already shifting towards life-long learning and skill development, with personalized, modular learning pathways and micro-credentials or bite-sized learning and development of a learner's knowledge, talent, and professional skills. For HEIs, these offer multiple revenue opportunities as the learner (student / employee) goes through multiple transitions at work.

Academia – Industry Linkage

There exist some commonly recurring gaps between academia and industry. Here is a list of the “Top 10 Gaps”, in 4 broad categories. (This section has been adapted from an upcoming book, based on project that I sponsored – “Empowering India – Ideas for Action by Scientists and Engineers”).

Engagement and Awareness	Communication regarding needs and capabilities
	Exposure of academics to the industrial environment, and vice versa
Learning and Skills	Industry-relevant curriculum
	Perception of role of industry internships in the academic curriculum
	Industry-ready graduates—whose responsibility?
Idea to Execution	Appetite for risk-taking in academia versus industry
	IP ownership
	Nurturing startups from an academic campus—industry role
Broader Areas	Role of industrial consortia in enhancing academic research
	Socially-relevant research, vis-à-vis application-specific

The HEIs should aim to bridge these gaps with the industry. Some illustrative recommendations include:

1. Academia-Industry “Partnerships” which can build and sustain a long-term relationship that transcends one that is projects-based; this would enable academia to impact the strategic vision of industry while still providing operational support. Far-horizon needs of industry — such as sustainability, digitalization, data analytics—can be conveyed to partnering academia, and solutions arrived at collaboratively.
2. Establishment of “Listening posts” inside academia by industry to keep track of the flow of new developments, within their specific area and outside, so that early trends can be picked up. These could be at the individual company level, or at the level of industry bodies and Associations.
3. Establishment of an “R&D Council” within industry - advisors who can help the industry distil the information generated the academia and identify early technologies that are promising. Academia should likewise consider hiring industry experts to form an “Industry Council”.
4. Academia to incorporate “Design Thinking” in technology development, and offer “Technology as a package” through a licensing Department - perforce every technology that is offered through this mechanism must satisfy certain performance standards relevant to industry.
5. Development of a new breed of professionals inside HEIs who act as “Translators” of scientific language into business language and vice versa. Many companies have already created this capability, often called ‘Innovation Evangelists’. Also, identification of “R&D Managers” who can lead large complex projects by combining deep knowledge of science with an excellent grasp of business intricacies.
6. Academia to engage with industry as a co-traveller in the journey of new technology development, rather than reviewer. Industry must share the ups and downs of research, and provide inputs at each stage rather than wait at a checkpoint to inspect the outcomes.
7. Industry and the ecosystem (VCs, PE, HNI, CSR) to establish a start-up fund and associated structures (incubators, accelerators) which can support budding enterprises from the academic ecosystem for the ‘Deep-Science-Deep Tech’ type of startups.