

MOOCs: their potential in formal and non-formal education in India

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MOOCs, over the past 5 to 6 years...

- Over 40 providers of tools, platform
- Over 200 Universities offering courses
- Over 2000 courses on offer
- Over 20 million students from around the world
- Over 2 million students from India
- At least 2 formal “tie-ups” from India (**BITS Pilani, IIT Bombay**, both with **edX**)
- Over 10 courses offered by Indian universities and faculty

This presentation is focused on ...

MOOCs (and its variant called SPOCs) can help address India's needs in various learning situations:

- formal education sector (colleges, universities, polytechnics, and ITIs)
- non-formal education sector (outside the organised set of institutions)

In a fundamental sense, MOOCs ...

MOOCs offer a way to augment (or even REPLACE) traditional LARGE lecture classes with rich digital content that can be downloaded anytime, anywhere

- Also provides for exercises & computer-based lab experimentation
- Comes with **automated assessment** and analytics

Today, and elsewhere ...

200+ universities offer MOOC courses free to anyone who wishes to learn

The motivation of these universities being:

- Build and/or experiment with new technology/pedagogy for education
- Offer courses world-wide to one and all, while recovering costs where feasible
- Build global brand name (to attract international students)

From India's viewpoint... that cannot be motivation enough ...

In India, MOOCs must help:

- **Improve quality** of education in **existing** 40,000 universities/colleges, and
- **Expand scale** of Higher Education to increase GER to over 30% by 2025
- **Keep** workforce in industry **updated** on recent developments

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➤ **While we**

- **combat severe shortages of faculty/trainers** in universities, colleges
- **not invest heavily** in new infrastructure
- Understand the challenge in commuting to colleges
- And do so using technology

In India we must focus on an alternate model ...

We should offer MOOC courses to fee* paying students enrolled in certificate/degree programmes in existing colleges/polytechnics or elsewhere:

- This form of MOOC courses is called **SPOCs** (Small** Private*** Online Courses)
- These courses may be blended with problem-solving sessions & labs, where feasible

* cost of instruction is likely to be significantly lower

** small == thousands, perhaps tens of thousands

*** private == the group of enrolled students

As a first example ...

For example, Delhi University offers “BSc (Hons) in Physics” to over 3000 to 5000 students spread across 50+ colleges:

- They follow same curriculum, take same exams, get same degree, etc.
- Today DU must hire “expert” lecturers in each college for every subject
- Going forward:
 - Lectures are replaced by digital content that can be downloaded
 - One will need teachers who can teach problem-solving sessions & labs (well-versed with problem-solving, but are not experts)
 - Experts (to be hired) will create content, design problem sets

As other examples ...

UPTU, the state university that affiliates hundreds of engineering colleges in UP, similarly specifies the curriculum to be followed by these colleges, conducts exams, awards degree, etc.

- Colleges are hard pressed for hiring “expert” lecturers for every subject
- Going forward:
 - Lectures are replaced by digital content arranged for UPTU
 - Colleges need to attract teachers well-versed with problem-solving, but are not experts
 - Experts will create content, design problem sets and lab experiments

At BITS Pilani ...

BITS offers every year 10 to 15 courses to ~3000 students spread across 4 campuses:

- Students follow same curriculum, take same exams, get same degree, etc.
- Today BITS must hire faculty in each campus for every course
- Going forward:
 - Digital content is being created by BITS' faculty (in some cases in collaboration with experts from elsewhere)
 - Classes have been flipped from 3L-1T-2P to 0L-2T-2P
 - Labs remain as they are

More generally, MOOCs/SPOCs have applications to ...

Formal education sector (schools, universities, polytechnics)

- **Universities** with large enrolments in programmes run by multiple colleges
 - Or “affiliating” universities (e.g. Pune Univ), “state technical universities” (e.g. UPTU), or polytechnics (under Tamil Nadu Dir. Of Technical Ed., e.g.)
- **Distance Learning programmes** offered by **Open universities**
 - IGNOU, State open universities, IETE, IE, etc.
- Vocational training, blended with hands-on labs & workshops
 - ITIs, ITCs, under Directorate of Technical Ed, Delhi Govt.

MOOCs/SPOCs also have applications to ...

Non-formal education sector (outside the organised set of institutions)

- Custom-designed retraining of industry professionals
- “**Train the trainers**” programmes for schools, colleges, etc.
- Development of soft-skills, such as communications, leadership, etc.
- Competency in language
- **Awareness programmes** for workplace (gender issues, ethics, teamwork, etc.)

Recommendations for ... Education providers

- 1. Adopt MOOCs pedagogy in on-campus & distance learning programmes**
2. Train faculty in developing high quality digital content, and in giving courses using MOOCs pedagogy
3. Re-assess and revise existing curricula from viewpoint of MOOCs
4. Develop means to assess quality of instruction delivered using MOOCs
5. Join hands to develop advanced MOOCs tools and platforms

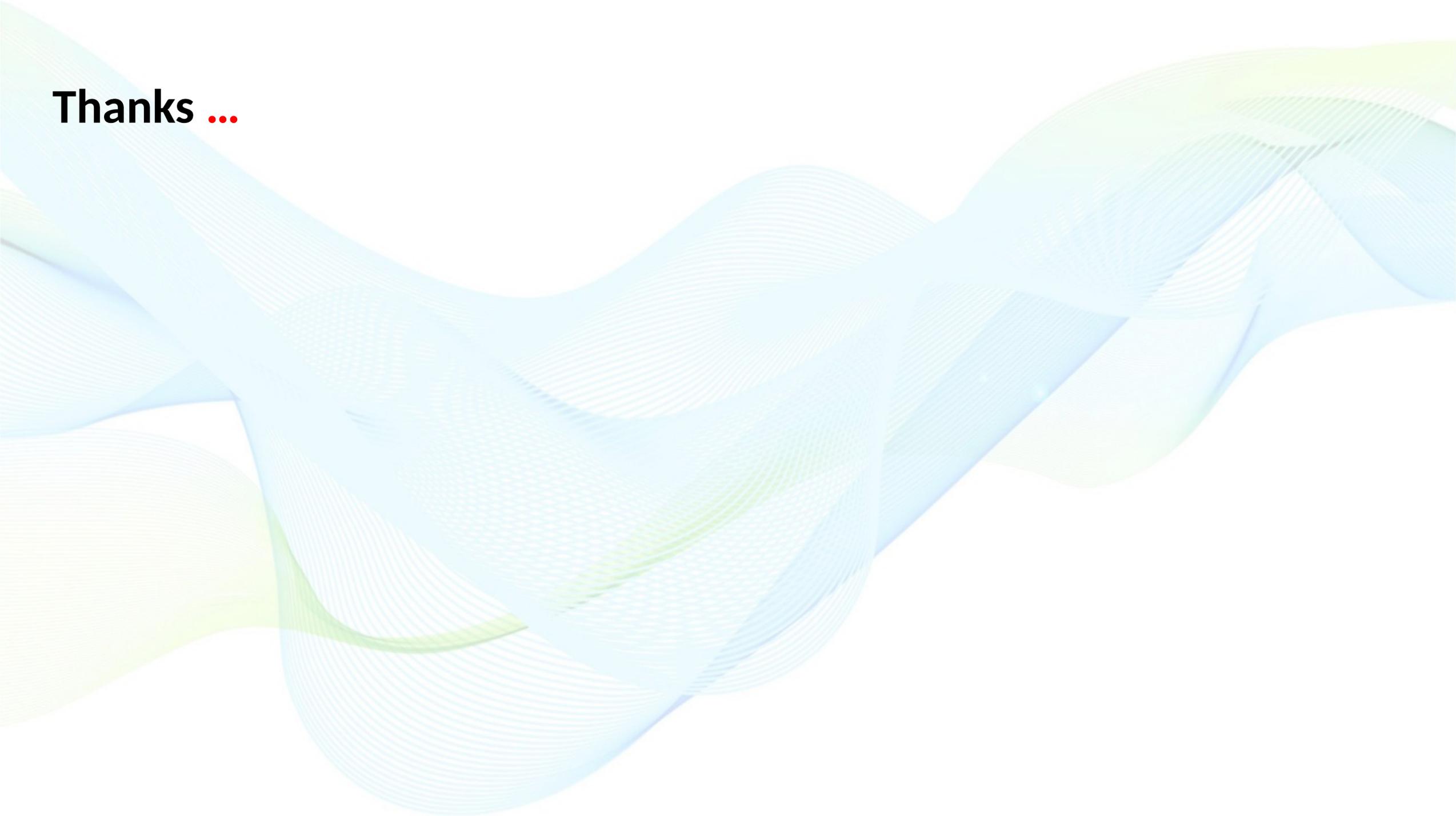
Recommendations for ... Employers and industry associations:

- 1. Adopt MOOCs as a means to keep its workforce current**
2. Work with Government and education providers to develop standards for quality assessment
3. Work with Government & education providers to help evolve next-gen MOOCs, with focus on informal and non-formal learning

Recommendations for ... Government

- 1. Encourage and facilitate adoption of MOOCs-based pedagogy as an alternative to face-to-face classrooms-based instruction**
 - particularly through distance learning offered by “Open” universities
2. Allow accreditation of programmes that use MOOCs pedagogy
3. Promote experimentation in MOOCs & in creation of course content
4. Promote development of tools & platforms for MOOC courses
5. Promote assessments of quality of education delivered using MOOCs
6. Use MOOCs/SPOCs to retrain Govt. Employees

Thanks ...

The background of the slide features a series of overlapping, wavy, ribbon-like shapes in shades of light blue and pale green. These shapes flow across the frame from left to right, creating a sense of movement and depth. The lines are thin and densely packed, giving the ribbons a textured, almost fabric-like appearance. The overall color palette is soft and clean, with a white background that makes the blue and green tones stand out.