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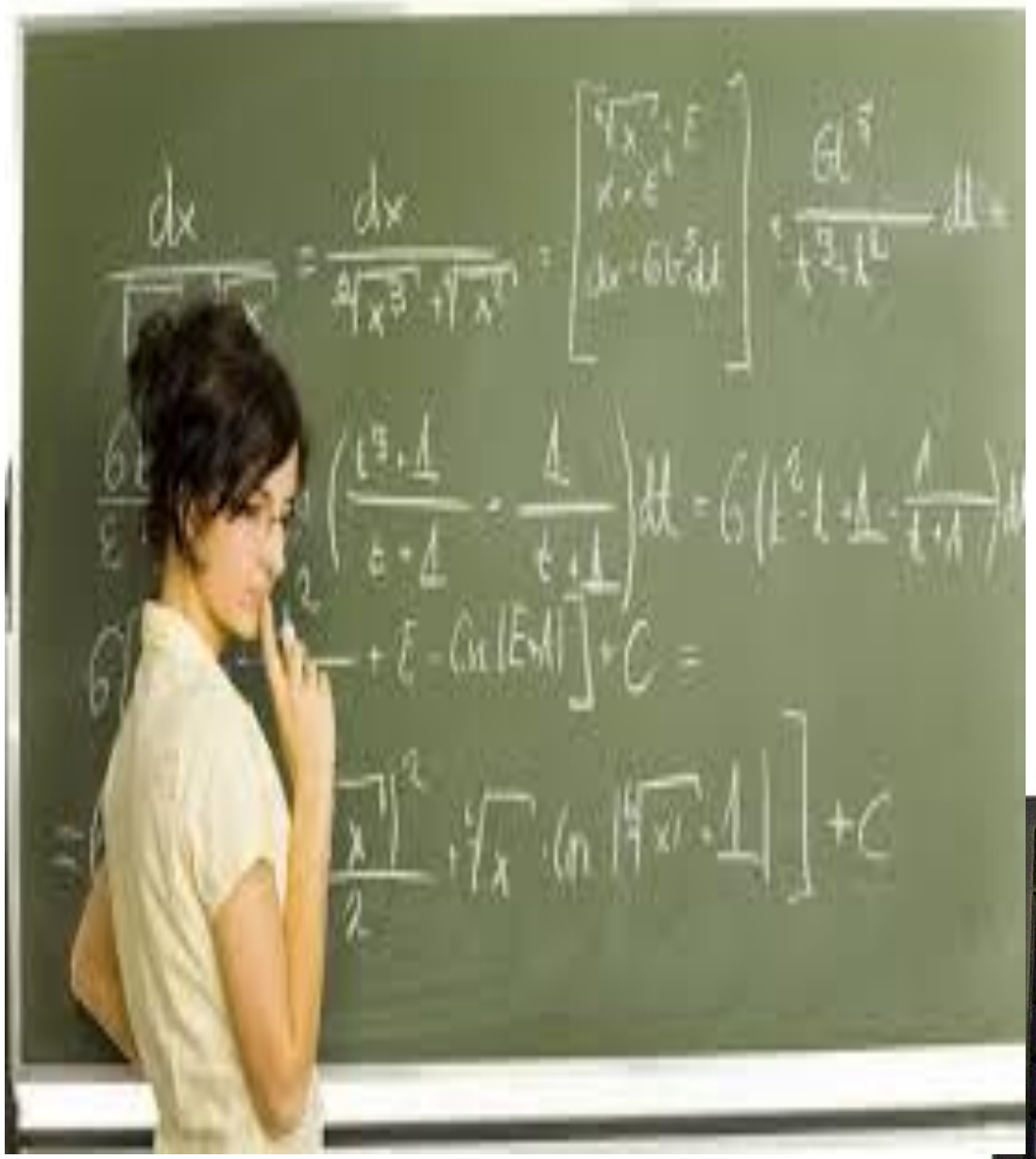
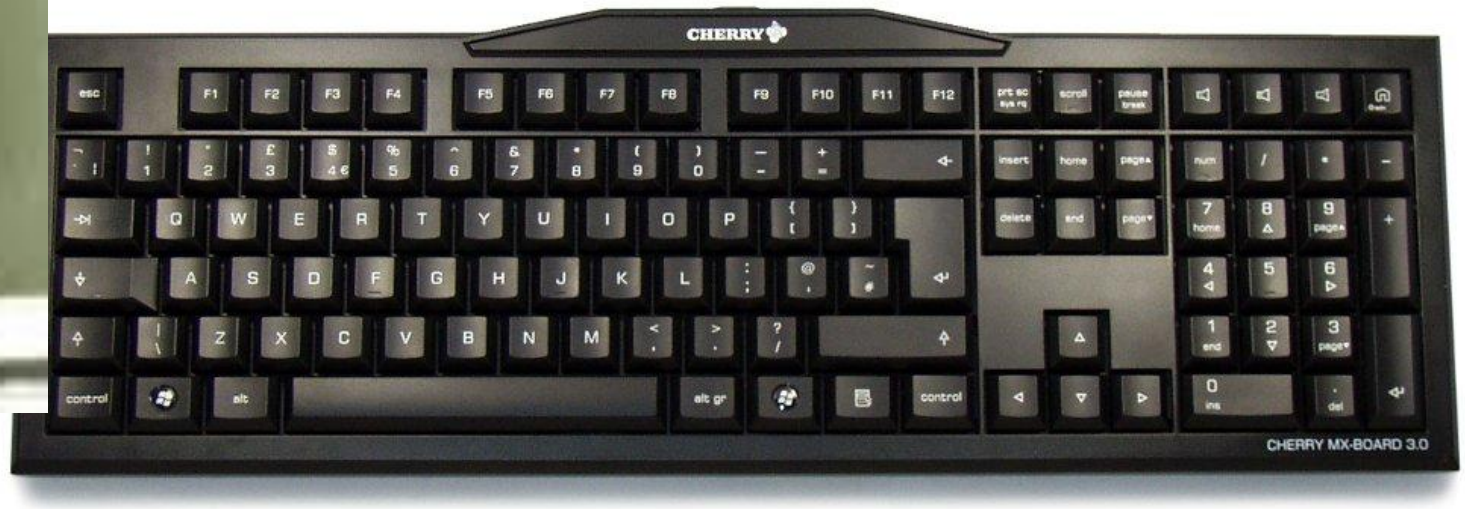
UNIVERSALIZING UNIVERSITY EDUCATION:
MOOCS IN THE ERA OF KNOWLEDGE BASED SOCIETY

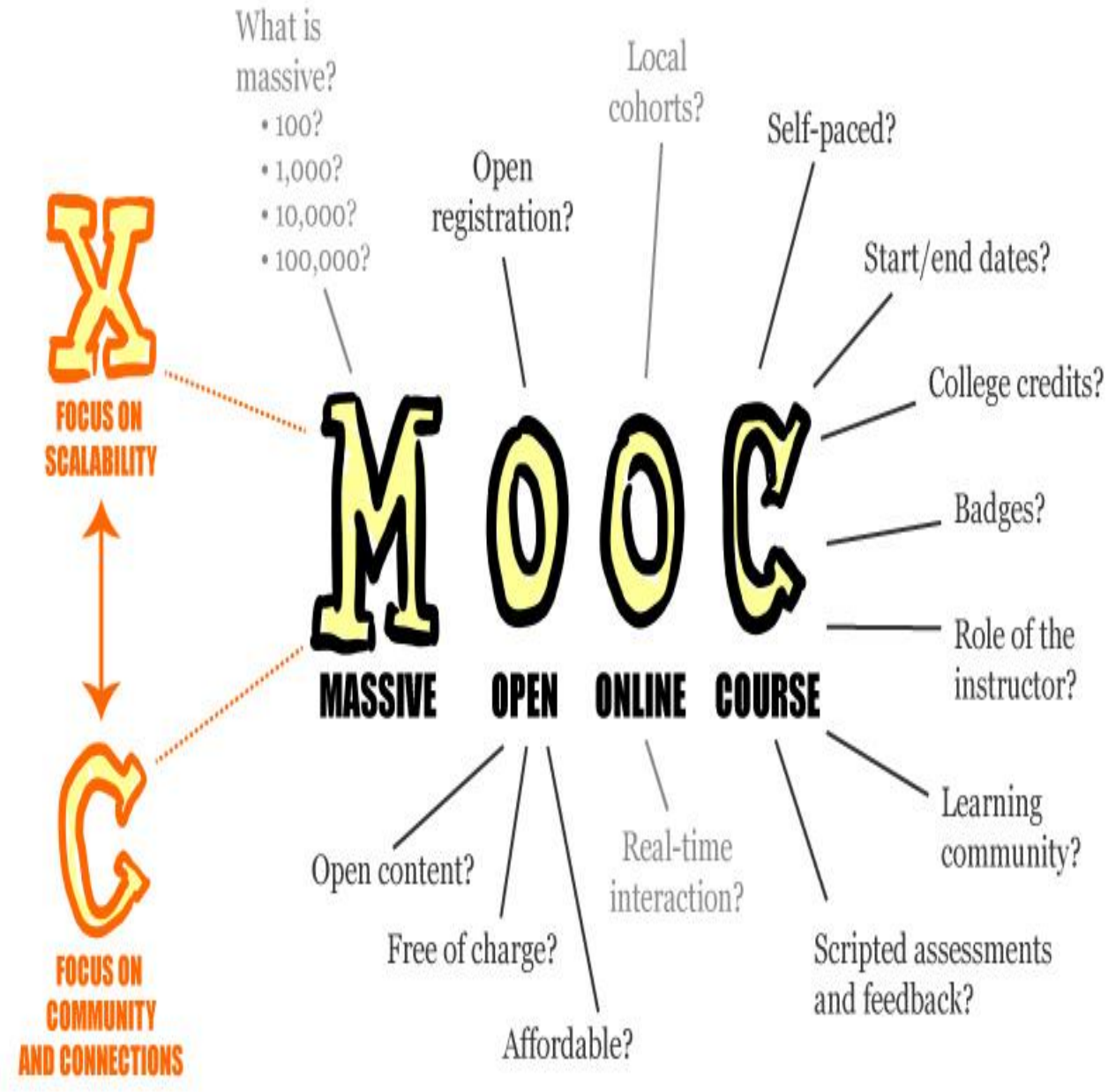
EDUCATION
FUTURE



Exercise #1
Mathematics
x=3
Exercise #2
Alamy


CHERRY
CHERRY MX-BOARD 3.0

"Learning through Massive Open Online Courses will enable in all Indians who want to learn, earn, teach or innovate, the capability to realize their true potential and transform our country."



MASSIVE OPEN ONLINE COURSES (MOOC)

As the name suggests, MOOCs are conducted online for hundreds of thousands of students worldwide without restrictions. Top global universities have already joined MOOC platforms or started their own MOOC initiatives.

MOOCs offer high quality education from top universities of the world, usually for free. Over 10 million students globally have enrolled in thousands of such courses offered by just the top 3-4 providers of MOOCs. Coursera has over 8.5 million students and 2 offers 700 courses from 110 globally recognized partners

FACTS ABOUT MOOCs

- Udemy has over 3 million students and offers more than 16,000 courses.
- edX has over 1.3 million students from 195 countries.
- Udacity has 1.6 million students in 12 3 full courses and 26 free courseware .
- These numbers have been achieved just over the past 3 years (2011-14).

EVOLUTION OF MOOCs

Started in 2008. The first MOOC was conducted by George Siemens, Stephen Downes and David Cormier which was called Connectivism and Connective Knowledge 2008 (CCK08)

These MOOCs were developed on the principles of LEARNING THE PROCESS OF MAKING CONNECTION and KNOWLEDGE IS THE NETWORK

In 2011, Sebastian Thrun and Peter Norvig at Stanford started an online course in Artificial Intelligence. The response was massive (over 160,000 people joined from more than 190 countries). Later they left Standford and created a company UDACITY

Soon after, in April 2012, Daphne Koller and Andrew Ng, both Stanford colleagues involved in the Stanford MOOCs, started Coursera. In May, Harvard and MIT joined together to create the edX platform.

CURRENT SCENARIO OF INDIAN HIGHER EDUCATION

The current higher education system in India is massive with over 30.5 million students enrolled across more than 45,000 institutions with a Gross enrolment ratio (2013–14) 22.5% of which enrolment in regular brick and mortar institutions is 84% and Distance education is 16%.

The institutional capacity for higher education includes Colleges (33,023), Diploma-granting institutions (12,748) and Universities (659).

It is interesting to note that out 659 universities, 47% of them are state universities and 7% are Central Universities where as 16% are owned by private institutions. This number has been growing for the last half a decade as the government of India passed Private Universities Act (Establishment and Maintenance of a Private University Regulations- 2010) of promoting public private partnership for development. It was projected that by 2030

DEPARTURES
ARRIVALS

Department of Electronics and Information Technology, Government of India

DIGITAL INDIA

A programme to transform India into a digitally empowered society and knowledge economy

VISION OF DIGITAL INDIA

Centered on 3 Key Areas

Digital Infrastructure as a Utility to Every Citizen

Governance & Services on Demand

Digital Empowerment of Citizens

NINE PILLARS OF DIGITAL INDIA

1. Broadband Highways
2. Universal Access to Phones
3. Public Internet Access Programme
4. E-Governance – Reforming government through Technology
5. eKranti – Electronic delivery of services
6. Information for All
7. Electronics Manufacturing – Target NET ZERO Imports
8. IT for Jobs
9. Early Harvest Programmes

OER INITIATIVES IN INDIA

NATIONAL PROGRAM ON TECHNOLOGY ENHANCED LEARNING (NPTEL)

to enhance the quality of engineering education

nptel.iitm.ac.in

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MHRD
AMRITA UNIVERSITY
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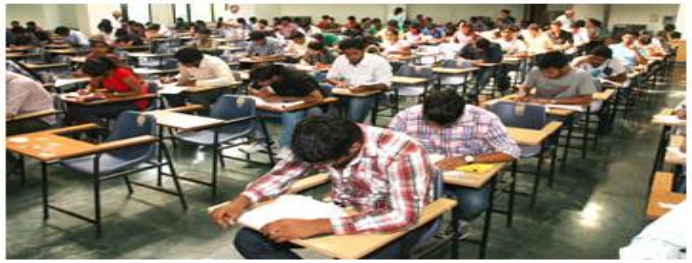
LEARN FROM THE BEST
Get access to the best teachers
VIEW MORE
A-VIEW CLASSROOM
MISSION 20K
A-VIEW, developed by Amrita University, is part of Talk to a Teacher program led by IIT Bombay and funded by NME-ICT, MHRD.
Initiative to popularise science (New Indian Express)...More Details

NATIONAL INSTITUTE OF OPEN SCHOOLING

Screen Reader Access | Skip to main content | Text Size: A- A A+ | Contrast Scheme: A A | English | हिन्दी

राष्ट्रीय मुक्त विद्यालयी शिक्षा संस्थान
National Institute of Open Schooling
(The Largest Open Schooling System in the World)

Search:



Latest @ NIOS

- Marklist of Written and Skill Test appeared for the test on 21st September, 2013 for the post of JA/Steno
- Establishment of New Regional Centre at

Admission - Secondary & Sr. Secondary
Admission - Vocational

LSC TOLL FREE - 1800 180 9393
Virtual Open Schooling (VOS) New

Examination / Result

- Notification in respect of Mistake/Discrepancy related with Examination/Result Data (450 KB)
- Results for October 2013 Examination
- Submission of Online Examination Fee for April 2014 Exam
- Offline Examination Form to be deposited at Concerned Regional Centre for April 2014 Examination (154 KB)
- Notification for Submission of Examination Fee for April 2014 Examination (1545 KB)
- Result of Hunar - Delhi
- Download / Verification of Certificate
- Results of Previous Examination

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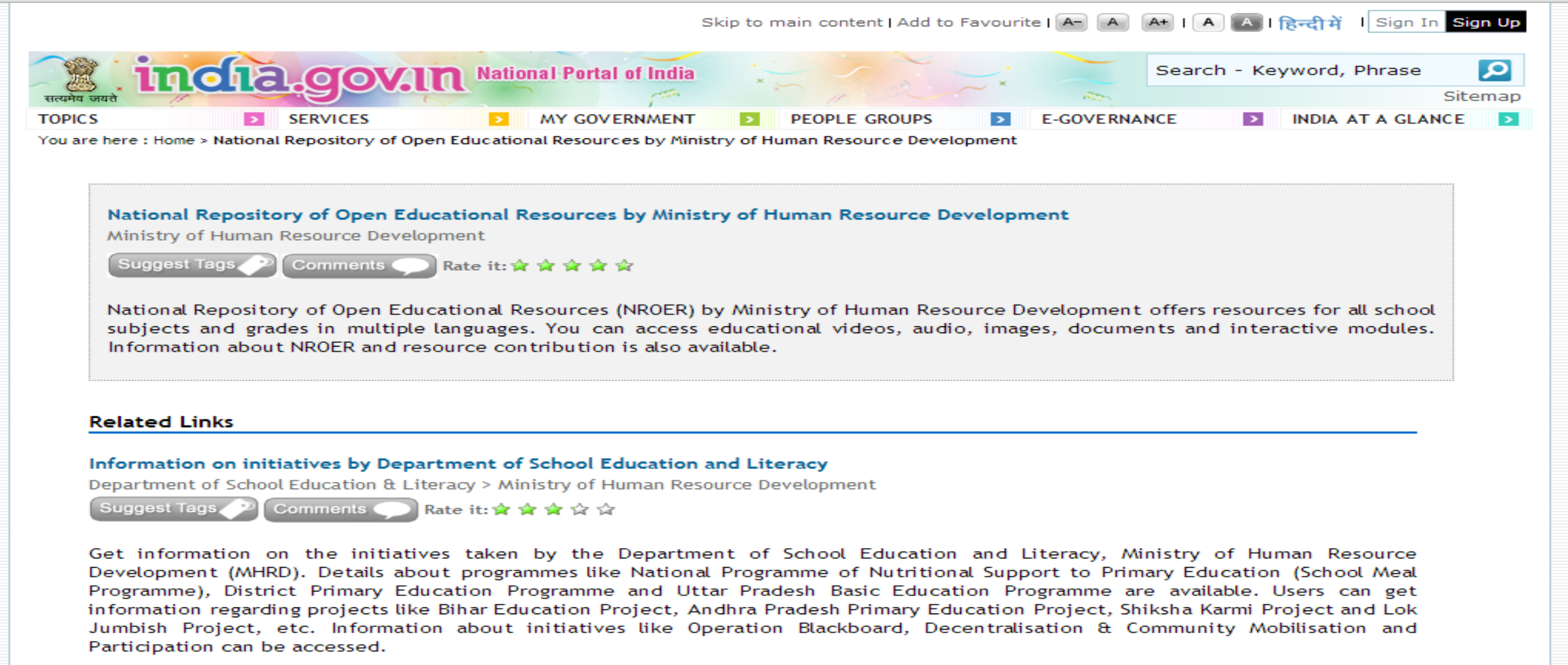
- Staff List
- Publication
- At a Glance
- Research & Development Cell
- NCOS
- COMOSA
- Regional Center Website
- Citizens' Charter

Information About

Admission

The National Institute of Open Schooling (NIOS) formerly known as National Open School (NOS) was established in November,1989 as an autonomous organisation in pursuance of National Policy on Education 1986 by the Ministry of Human Resource Development (MHRD), Government of India. NIOS is providing a number of Vocational, Life Enrichment

NATIONAL REPOSITORY FOR OF OPEN EDUCATIONAL RESOURCES (NROER)



MOOC INITIATIVES IN INDIA

The HRD Ministry, Government of India has recently announced a Campus Connect programme to make 21,000 colleges and 4.2 lakh classrooms Wi-Fi enabled giving access to academically relevant websites to around 1.5 crore students. As per this programme, all the buildings of universities that have 1 Gbps bandwidth will be made Wi-Fi enabled.

An India specific MOOCs (Massive Open Online Courses) platform 'SWAYAM' (Study Webs of Active-Learning for Young Aspiring Minds) indicating self learning, was launched in 2014 and is completely free of cost and also promises to offer top quality courses in a number of Indian languages

SWAYAM, BUILT ON OPEN-EDX

Swayam online courses starting soon.

MOOCS IN HIGHER EDUCATION

- Formal Sector (diplomas and degrees, traditional Higher and Vocational Education)
- Non-formal Sector (continuing professional and vocational education, formal certifications)
- Informal Sector (lifelong and adult learning)

support
convenience
technology
innovation
MOOC
learning
new
online
enrolling
courses
everyone
project
teaching
thought
possibility
reach
people
special
accessible
change
open
knowledge
participate
everyone
goals
hope
social
discussion
digital
questions
experience
simple
education
think
online
complete
attention
challenge

FORMAL SECTOR

- The hierarchically structured, chronologically graded 'education system', running from primary school through the university and including, in addition to general academic studies, a variety of specialized programmes and institutions for full-time technical and professional training.
- The sector has grown from 8.4 million students in the year 2000 to 30 million in 2012.
- According to MHRD report, "the present shortage of 3.8 Lakhs teachers … in the higher education … comes to over 50% …. It is likely to grow to 13 Lakhs in the next 8 to 10 years."

MOOCs in formal sector - offer an alternative to lecture-mode classroom instruction using digital content that can be downloaded (and re-downloaded) by students anytime, anywhere depending upon their convenience.

NON-FORMAL SECTOR

Non-formal education is all about 'acknowledging the importance of education, learning and

16 training which takes place outside recognized educational institutions.

India has a large population of students and workers who operate outside the formal sector or who need to be additionally skilled to be gainfully employed. India's working age population (15-64 years) is now 63.4% of the total population.

MOOCs in Non-Formal Sector - MOOCs provide the flexibility to the learner to learn at her pace, from the instructors or organizations of her/his choice. It may not be free or massive or open, Though, it bring the power of online, social network based learning that helps and guides learners in taking greater responsibility for their own learning.

The MOOCs have not just been the domain of universities and the programs they run. Rather, there have been a slew of courses offered on Computer Science, Health, Business, Art & Design, Sciences, Social Sciences, Education, Law, Management and a host of other areas.

Traditional training providers such as Lynda.com which has 2600+ courses and over 4 million users, Treehouse and Codecademy have placed increased focus and investment on scaling up their offerings. Many MOOCs in the non-formal sector, especially for Vocational Education and Training, shall require offline, hands-on training and practice areas.

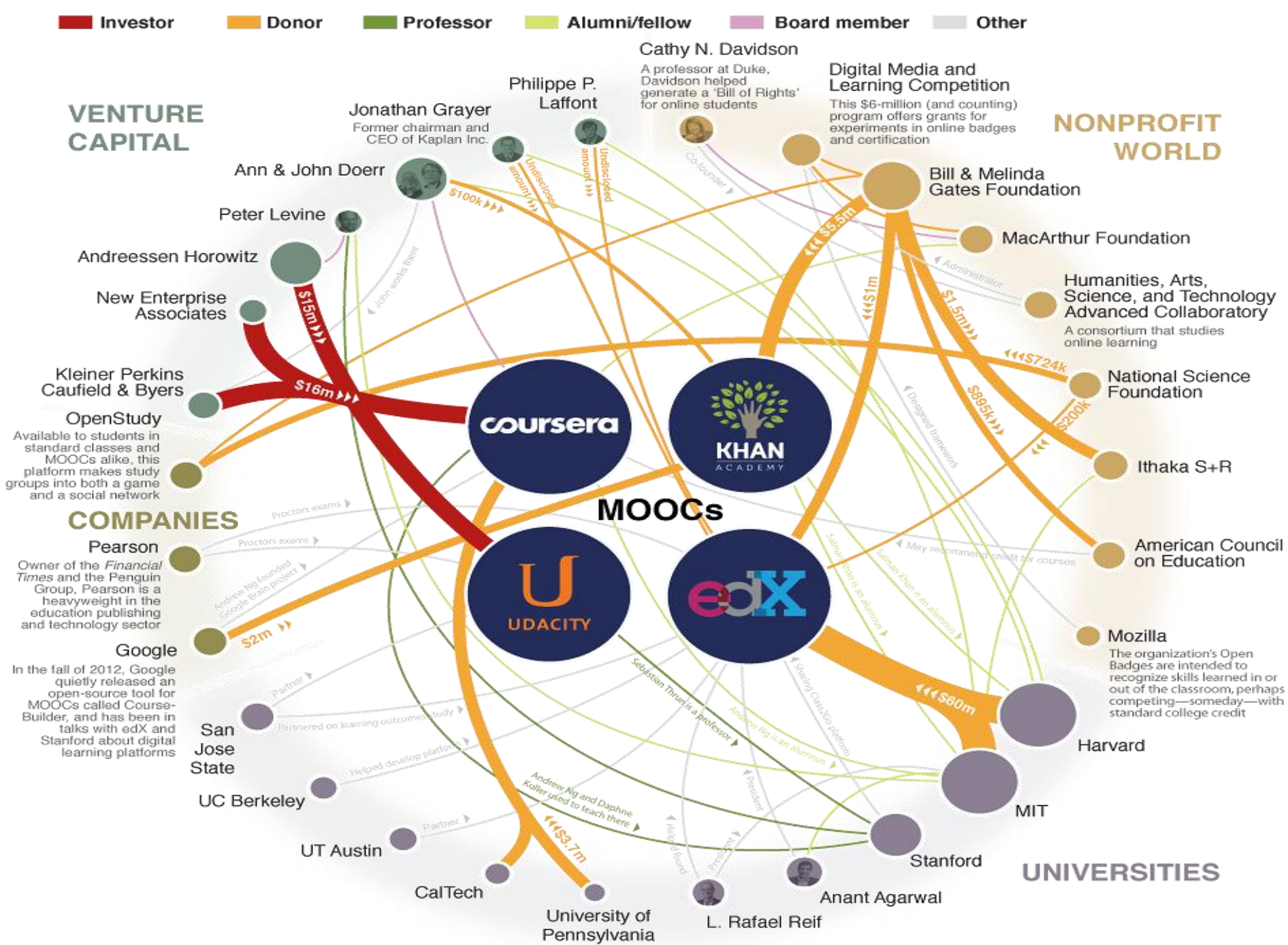
INFORMAL SECTOR

"Informal learning is the unofficial, unscheduled, improvised way most people learn to do their jobs" – Jay Cross

Informal learning forms a vast part of any individual's learning, which happens through social or "informal" interactions with peers, colleagues, friends etc. and learning through experiential means.

While the formal and non-formal sectors organize the flow of instruction through programs and courses, this sector focuses more on learning on-the-job, to get better at the job or to get a better one, and the skills required to achieve this.

MOOCs in Informal Sector – Because of the intrinsic nature it extricates from being a course based study. Informal learning by its very nature is Massive, Online and Open (MOOC without the 'C').


Investor
Donor
Professor
Alumni/fellow
Board member
Other
VENTURE CAPITAL
NONPROFIT WORLD
COMPANIES
UNIVERSITIES
MOOCs
Cathy N. Davidson
A professor at Duke, Davidson helped generate a 'Bill of Rights' for online students
Digital Media and Learning Competition
This $6-million (and counting) program offers grants for experiments in online badges and certification
Philippe P. Laffont
Jonathan Grayer
Former chairman and CEO of Kaplan Inc.
Ann & John Doerr
Peter Levine
Andreessen Horowitz
New Enterprise Associates
Kleiner Perkins Caufield & Byers
OpenStudy
Available to students in standard classes and MOOCs alike, this platform makes study groups into both a game and a social network
Pearson
Owner of the Financial Times and the Penguin Group, Pearson is a heavyweight in the education publishing and technology sector
Google
In the fall of 2012, Google quietly released an open-source tool for MOOCs called Course-Builder, and has been in talks with edX and Stanford about digital learning platforms
Undisclosed amount
$100k
$15m
$16m
$2m
$3.7m
$5.5m
$1m
$1.5m
$724k
$895k
$200k
$60m
Bill & Melinda Gates Foundation
MacArthur Foundation
Humanities, Arts, Science, and Technology Advanced Collaboratory
A consortium that studies online learning
National Science Foundation
Ithaka S+R
American Council on Education
Mozilla
The organization's Open Badges are intended to recognize skills learned in or out of the classroom, perhaps competing—someday—with standard college credit
Harvard
MIT
Stanford
Anant Agarwal
L. Rafael Reif
University of Pennsylvania
CalTech
UT Austin
UC Berkeley
San Jose State
coursera
KHAN ACADEMY
UDACITY
edX
Co-founder
Administrator
Designed framework
Proctors exams
Partner
Partnered on learning outcomes study
Helped develop platform
Andrew Ng founded Google Brain project
Andrew Ng and Daphne Koller used to teach there
Sebastian Thrun is a professor
Salman Khan is an alumnus
Andrew Ng is an alumnus
May recommend credit for courses
Sharing Classics platform
President
Helped found
President

POTENTIAL APPLICATIONS

FORMAL SECTORS

Application 1 – SPOCs in Traditional University Education

Application 2 – SPOCs in Other Universities

Application 3 – SPOCs in Technical Polytechnics

Application 4 – SPOCs in Traditional Higher Education System

Application 5 – MOOCs in Open and Distance Learning

Application 6 - MOOCs in Vocational Education: Community Colleges, Polytechnics, ITIs and ITCs

NON-FORMAL SECTORS

Application 1- Professional Development MOOCs

Application 2 - Government Personnel Training MOOCs

Application3: Language, Communication and Soft Skills MOOCs

Application 4: Vocational Education MOOCs

Application 5: Teacher Education

INFOMRAL SECTOR

Application 1: Life Skills (such as Finance, Health, Technology and Personality development)

**Life Skills (such as Finance, Health, Technology and Personality development) can greatly enhance the well-being of our citizens and improve their productivity.

Application 2: Citizenship (areas of National/NGO significance)

**Issues of national significance and impact can be handled by MOOCs very effectively.

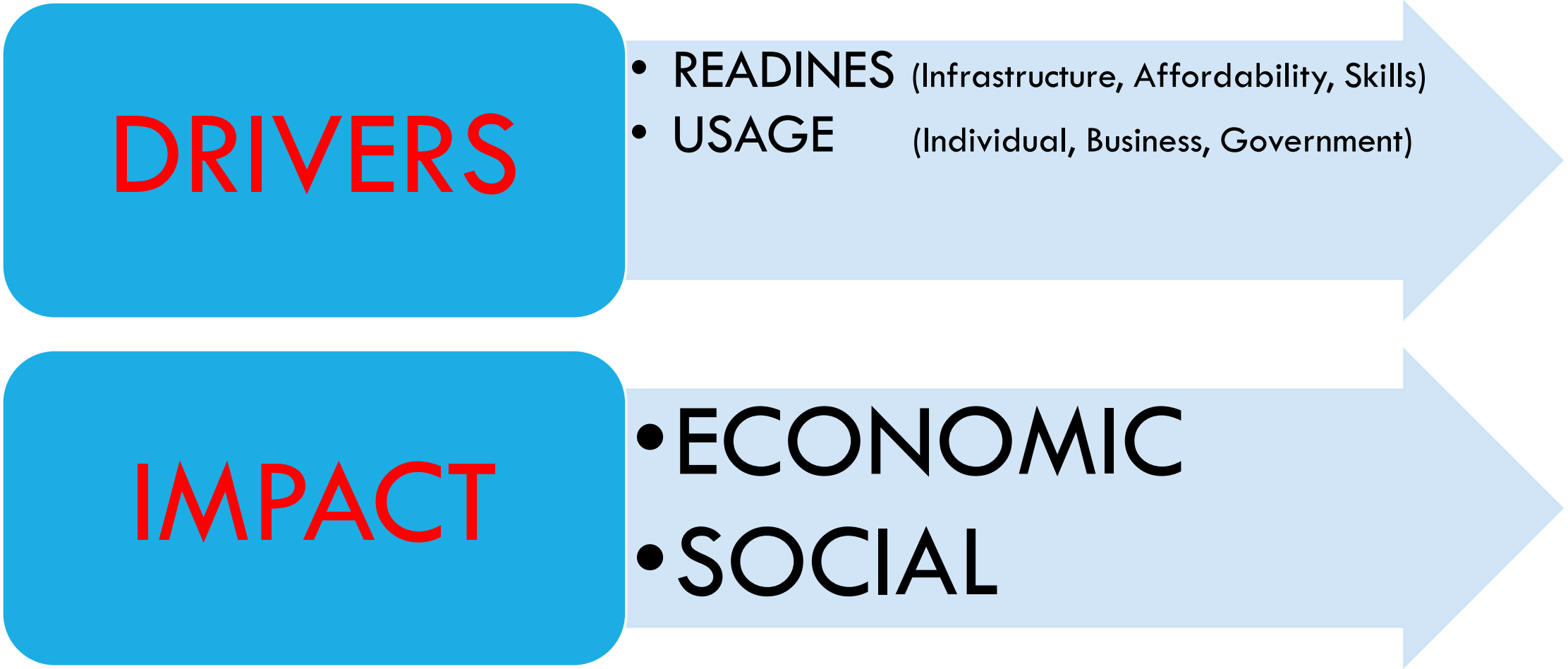
CHALLENGES

Technological infrastructure and readiness need to be developed to provide better Internet access for the country's population. This can happen through both efforts toward worldwide connectivity and increased support of mobile technologies.

MOOC providers need to consider the educational needs in various countries and provide diverse options to meet them. India being a widely diversified country having multicultural societies, MOOCs requires to address this issue in a more realistic way.

Investment, Finally, MOOC providers need to make an investment in India by partnering with local institutions to create courses that are relevant and accessible to the Indian population. Even Indian Government needs to liberalize conventional regulations and restrictions and encourage public private partnership for creating MOOCs in this country. In many ways, India is a perfect proving ground for MOOCs.

NETWORKED READINESS INDEX



Networked Readiness Index 2014
(World Economic Forum, 2014)

RANK	COUNTRY	SCORE
1	Finland	6.04
2	Singapore	5.97
3	Sweden	5.93
4	Netherlands	5.79
83	India	3.85

FOR TOMORROW …

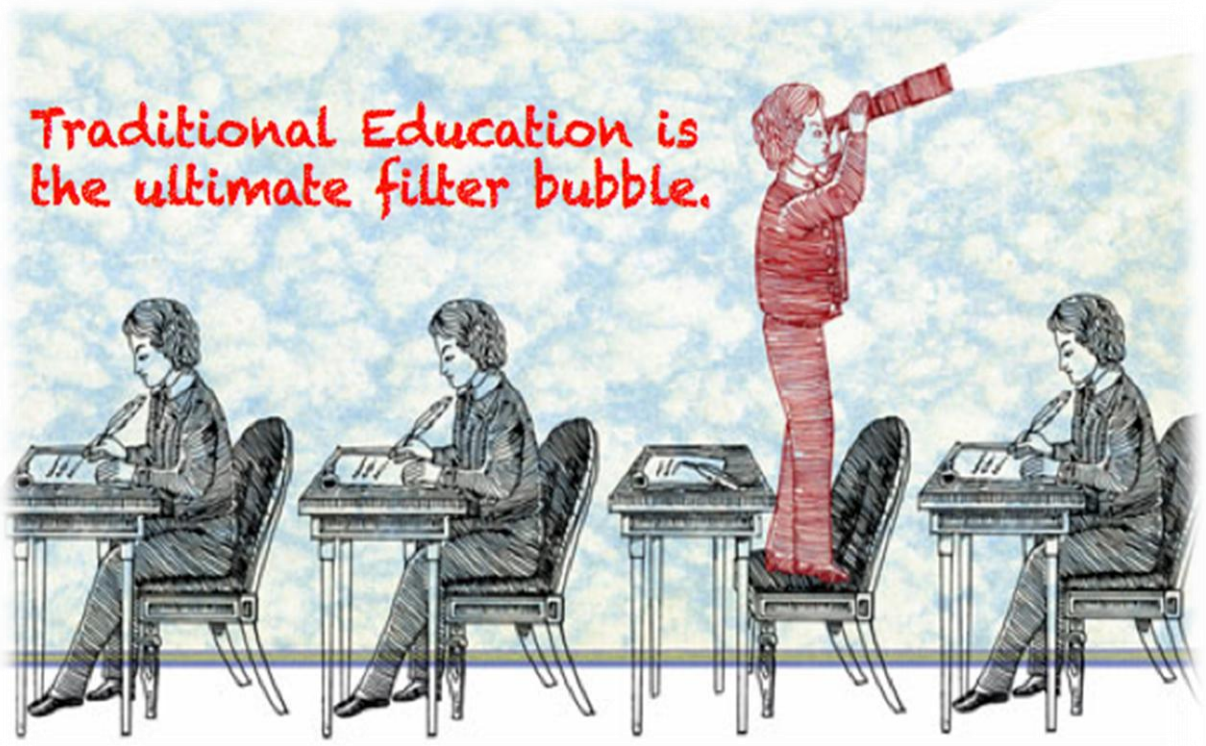
Few points have been proposed possible next steps for consideration by the government, institutions & education providers, and employers & educational professional associations.

Government may encourage, recognize and accept, facilitate and possibly incentivize the use of MOOCs, and its variants, for online delivery of courses in all sectors, viz. formal, non-formal and informal education.

By adopting MOOCs and its variant, institutions and education providers could develop, or help develop, digital content for various courses.

Professional associations and employers may also adapt MOOCs and encourage their HR departments to employ fresh graduates or experienced professionals, certified by MOOCs' resources.

CONCLUSION



TIME AND AGAIN WE HAVE SEEN THE DISRUPTIVE IMPACT OF INTERNET CAN HAVE ON INDUSTRIES – DRIVING INNOVATION AND ENHANCING THE CUSTOMER EXPERIENCE. MOOCS WILL DO SAME FOR EDUCATION

MARTIN BEAN