Digitization and Disintermediation in German Higher Education

Felix C Seyfarth (felix.seyfarth@leuphana.de, @fseyfarth)

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April 24, 2014 in Ljubljana, Slovenia
1. Overview: Digitization and Higher Education

2. Scenarios: HEI challenges in Germany

3. The case of Leuphana Digital School

4. Summary & hypotheses
Premise: Higher Education is a labor-intensive, scarce and hence costly resource – digital networks threaten the privileged position of Providers/Institutions (HEI).

Changes in Learning
- Global around-the-clock availability of teaching material from renowned education providers
- Formal prerequisites and assessment less relevant
- Individualized learning goals and educational biographies

Changes in Teaching
- Integrating social media and mobile devices allows integrative and participatory learning processes
- Digitization increases role of peer-learning and feedback
- Modularization allows flexible, personalized curricula/degree

Changes in Organizations
- Looser coupling of courses and curricula
- Autonomous, method-driven educational building blocks offered for academic credit
- Increasingly competitive university landscape now extends to teaching

DISINTERMEDIATION: DIGITAL NETWORKS DRIVING ORGANIZATIONAL CHANGE IN HIGHER EDUCATION
Life-long learning: Continuing and adult education is needed across age cohorts, a trend that will increasingly manifest itself online.

<table>
<thead>
<tr>
<th>Age Cohort</th>
<th>Baby-Boomers</th>
<th>Generation X</th>
<th>Generation Y</th>
<th>Millennials</th>
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<tbody>
<tr>
<td>50-65 years</td>
<td>1970s</td>
<td>1980s</td>
<td>1990s</td>
<td>&lt; 25 years</td>
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<tr>
<td>24%</td>
<td>21%</td>
<td>22%</td>
<td>18%</td>
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</table>

| grew up in       | < 3 TV Sender, Radio, Zeitung, Magazine, Vinyl | Kabel TV, 30 TV Kanäle, Video Rekorder, CNN, Musikkassetten | WWW, Email, CD, Digitales Radio, SMS, iPod, Handy | HDTV, Web 2.0, Smartphones, Pandora, MOOCs, iTunes |
| Media socialization | 1970s | 1980s | 1990s | 2000+ |

<table>
<thead>
<tr>
<th>Career level</th>
<th>Senior Management</th>
<th>Middle Management</th>
<th>Staff</th>
<th>Entry-level positions</th>
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</thead>
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| Share of Population | 24% | 21% | 22% | 18% |

Quelle: NBC New Media Study, 2007
Disintermediation: Increasingly credible alternatives to conventional on-site teaching emerge from the use of various educational technologies.

GARTNER HYPE-KURVE, EXAMPLE MOOC

Obsolence before Plateau: Long-term success becomes possible if innovative potential allows institutionalization

New York Times: 2012 is the “Year of the MOOC"

Time Magazine: “Ivy League for the Masses”

John Hennessy, Stanford University: „There is a tsunami coming“

Tom Friedman: „Revolution hits the universities“

Quelle: Gartner, August 2013

duz (Juli 2013): „Will videos ruin higher education?“

Expectation

Technologische Innovation

Gipfel überzogener Erwartung

Tal der Desillusionierung

Hang der Erleuchtung

Plateau der Produktivität

Time
Modern career trajectories require continued, individualized learning; so far mainly the private sector has successfully addressed this growth in demand.

1. edX - MOOC Plattform mit Foren-Diskussionen, 1.6 Millionen Nutzer
2. Udacity - Kommerzielle, individuelle Online-Kurse, 1.6 Millionen Nutzer
3. Coursera - Kommerzielle, individuelle Kurse mit Universitäten, 21 Millionen Anmeldungen
4. Udemy - Kommerzielle, individuelle Online-Kurse, 600.000 Anmeldungen

MORE THAN 24 Mio USERS

3. https://www.coursera.org/about/community
New competition in the global educational landscape forces public institutions to develop a clear profile, maintain a reputation and to communicate professionally.
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The adoption of MOOC & other emergent digital formats of learning: What is different in Germany?

- **Educational cost is low and (mostly) publicly financed**
  No tuition, government financial aid, debt levels are negligible, undergraduate programs affiliated with industry

- **Geographic distance is minimal and density of HEI is high throughout**
  Spread in size and quality difference of HEI is small (with a few exceptions), mostly small public institutions

- **Focus on limited target audience**
  Historic and legal reasons have confined recruiting activities to domestic and regional student bodies

- **Extra-institutional and internal governance structures**
  Political system strengthens supervisory role of individual states, circumscribes influence of federal government, creates a weakened voice at EU-level
  Organizational leadership may address infrastructure as a strategic asset, but has limited influence on content and quality of teaching.
Strategic investments in digital infrastructure is difficult in German HEI due to overwhelmingly short-term, project based funding sources.

SHIFT IN USE OF IT INFRASTRUCTURE AND SERVICES

- High usage intensity
- Low usage intensity
- High cost
- Low cost

Decade:
- 1980s
- 1990s
- 2000+

Private IT infrastructure and services

University IT infrastructure and services
Innovation is now pushing into universities from the outside in: HEI as network organizations are receptive to effects of organized networks (Disintermediation)

Example
The current hype about MOOCs shows that quality assurance and assessment/certification will not remain the privilege of public institutions of Higher Education.

„MOOCs: Only 7% of participants successfully complete“

„MOOCs so far are not good enough“
Sebastian Thrun, Gründer von Udacity

5 Sebastian Thrun im Interview
6 Times of Higher Education: http://www.timeshighereducation.co.uk/news/mooc-completion-rates-below-7/2003710.article
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Leuphana University’s study model emphasizes acquiring competencies and autonomous learning through interactive formats related to practice.

Combines personal and academic development in its understanding of education while placing the process of acquiring knowledge into a concrete context.

Contributes to the sustainable development of society through its education and research. Leuphana fosters competencies in dealing with complexity, problem-solving in an interdisciplinary manner, engaging in responsible and self-directed learning, developing a readiness and willingness to take on social responsibility and shaping the future in a sustainable manner.

Fosters the development of responsible and proactive individuals who demonstrate the creativity and thoughtfulness as well as the willingness and ability to creatively shape society. Leuphana contributes significantly to the solution of social problems through research, education, continuing education and academic services.
Leuphana University has long-term experience in implementing innovative and interdisciplinary teaching formats together with competent external partners.

**EXAMPLE: LEUPHANA FRESHMEN WEEK**

1.200 – 1.800 students work together on …

... restructuring public theaters in order to avoid their closing (2007)

... measures for the labor market in a time of economic challenges (2008)

... the representation of street art projects in the form of video clips (2009)

... restructuring Leuphana’s campus with world-renowned architects (2010)

... a fair and financeable health care system for Germany (2011)

... a unique start-up competition throughout Europe (2012)

Leuphana University is …

... the first provider of online education next to the FernUniversität Hagen

... among other things a center of excellence for digital media, culture and learning due to the large-scale project of the EU Innovation Incubator.
Since 2012, Leuphana Digital School bundles all online teaching and learning activities of the university as an interdisciplinary entity across all departments.

- Internationally compatible online courses and degrees
- One-stop e-learning and multimedia services
- In-house production and sensitivity for university issues
- Competence of legal aspects
- Solid institutional frame
- Methods based on research
Online offerings of Leuphana Digital School are advised by the Centre for Digital Cultures and supported by start-up funding of the EU Innovation Incubator project.

Leuphana’s cycle of competencies for technology of education

- Continuous scholarly discourse
- High production capacity of specialist know-how
- Innovative graduates with start-up skills
- Academic environment for rapid prototyping as well as research and teaching
- Extensive expertise for digital processes
The platform provider for Leuphana Digital School, Candena, is a start-up created by a Leuphana PhD student, closely aligned to teaching philosophy.

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<tr>
<th>Feature</th>
<th>Details</th>
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<tr>
<td>Founded in 2012 by a researcher of the Digital Media Center</td>
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<td>Specializes in delivering educational services using cloud computing</td>
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<td>Designed for mid and large-scale collaborative courses</td>
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<td>Provides managed, scalable and automated environments</td>
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<td>Platform provider utilized in all of Leuphana Digital School's projects</td>
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<tr>
<td>Optimized both for handheld devices and desktop computers</td>
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candena.com
Mentored Open Online Courses attempt to combine best practices into a sustainable model of online academic education ("weak connectivist approach").

### xMOOC
- Chalk and talk online
- Defined learning objective
- Didactical assistance
- Evaluation by tutors, no mentors
- Recorded lectures followed by multiple choice tests

### cMOOC
- Definition of learning content and objectives by participants
- Open learning objectives and structures
- Use of social networks
- peer learning, no formal instructors and no mentoring

### Leuphana Research Learning Didactic
- Assistance by tutors and mentors
- Moderation of public discussions
- Issue driven consulting, qualitative evaluation of course results by academics and experts
- Combination of open teamwork and development of defined learning objectives
- **Peer Review:** increased motivation, teaching academic habits, reduces risk of fraud/plagiarism
Leuphana’s MOOCs aim to fuse social media trends and academic teaching standards for a high-quality digital experience and a truly transnational audience.

Social requirements

- Social permeability and personal development equitable
- Instruments for lifelong learning true-to-life
- Availability to people with poor access to education integrative
- Education wherever you are, whenever you want dynamic

Opportunities of social networks

- International and intercultural contact and exchange global
- Reflection and overcoming of cultural differences heterogeneous
- Open and equal access to education for everyone democratic
- Creation of knowledge and solutions in groups participative
MOOC Pilot: “ThinkThank – Ideal City of the 21st Century”

ThinkTank Cities

- Individual Course, open to participants from all over the world
- 382 out of 1,823 active participants (21.4%) completed the course and were able to obtain a University Certificate with credits (5 ECTS)

Freshmen Week

- Blended learning project: introductory week for all College Freshmen
- More than 1,600 students collaborate on an online platform with constant guidance from mentors & tutors

- 1,700 incoming students
- 120 teams with one tutor to each team
- 6 assignments throughout the week
- Keynote speeches by international experts
- Identification with degree program and university
- Acceptance into the scientific community of learning
- Creating a welcoming social atmosphere on campus
- Mentoring ensures productivity and success from the start
- Awards for the best final submissions
Continuing Education M(O)OC: Magenta MOOC with Deutsche Telekom

Magenta MOOC

- First Corporate MOOC of Leuphana Digital School
- 500 employees of Deutsche Telekom worldwide collaborate on an online platform with the assistance and support of teachers, mentors and tutors

- New Corporate MOOC starting in April 2014
- Six consecutive assignments on entrepreneurship, simplicity and leadership
- 500 employees of Deutsche Telekom worldwide
- Global learning in teams on a social learning platform
- Digital School as the developer and provider of the course concept, the didactics, the support system as well as all media production
Cooperation with Staedel Museum, Frankfurt: MOOC „The School of Perception“

MOOC Art history

- New Mentored Open Online Course starting in March 2015 on the subject of the development of art
- Participants are given the opportunity to obtain a university certificate (5 ECTS) after successfully completing the course

Learning objective: Multidimensional perception of art by historic and systematic recognition of isms and concepts of modern art in reference to the collection of the Staedel museum.

- Accessible for participants from all over the world, cost- and barrier free
- Six consecutive assignments on the subject the history of art from 1750 to the present
- Constant assistance and support from teachers, mentors and tutors on a social and interactive learning platform
- Online course as part of the innovations concomitant with the bicentennial
- High-quality moving-image media exclusively produced for the course and further use by the Staedel museum

1. Describe three artworks!
2. Trace their History of origins!
3. Formulate a polemic!
4. Create an appropriate setting for an artwork!
5. Form a Group of artists!
6. Tell your own history of modern art!
Exemplary project: Individual Studies as an online bachelor’s degree: „Global Liberal Studies“

Global Community:
- Students from all over the world
- Individual online study program

Open Curriculum:
- Individual setting of priorities within four thematic fields: Sustainable Societies, Global Economies, Cultural Discourse and Digital Revolution
- Individually selected online (MOOCs) and offline courses of renowned providers

Constant Guidance Model:
- Strong mentoring and student assistance
- Individual coordination of the curriculum

Curriculum framing courses:
- Obligatory modules offered by Leuphana University deliver academic and scientific basic background and decision making competencies

Three years study program: Bachelor of Arts
Partner and supporter network
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Perspectives for emergent digital forms of teaching and learning (i.e. MOOC): Hypotheses for strategic initiatives and leadership in German HEI

1 – Opening institutions for internationalization & diversification
For many medium-sized and smaller universities/HEI in Germany, digitization strategies in learning complement and/or leverage actual student exchange to achieve a diverse, international and multi-cultural classroom to achieve better learning outcomes and their political mandate.

2 – Opening education for non-traditional providers
Digitization creates opportunities especially for smaller institutions and non-traditional education providers (disintermediation). Increased transparency in teaching and learning allows quality in teaching to play an unprecedented role in organizational sustainability.

3 – Opening education for non-traditional audiences
An increased focus on OER in conjunction with supporting legal and technological framework would open up the perspective for German HEI to turn education into an exportable asset. Demand notwithstanding, Germany is currently a net importer of education.

4 – Using digital resources to increase student success rates
Digital networks and teaching formats allow increased and improved mentoring of students before, during and after different phases of their educational biographies. HEI instructors and administrators can better address the changing educational landscape by interpreting their role in learning processes as facilitators rather than gate-keepers of knowledge.
MOOC curator & research associate
Leuphana Digital School
Michael-Ballhaus-Fellow
Scharnhorststrasse 1
D - 21335 Lüneburg
+49 4131 677-1630
felix.seyfarth@leuphana.de

Lecturer Leadership Skills program
PhD Researcher at the Institute for Systemic Management and Public Governance
Dufourstrasse 40a
CH - 9000 St Gallen
+41 71 224-2593
felix.seyfarth@unisg.ch