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FEASIBILITY STUDY FOR AN (INTER)NATIONAL HIGHER EDUCATION PLATFORM

Condensed version

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4

Working Paper 41 – Feasibility study for an (inter)national higher education platform
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HOCHSCHULFORUM DIGITALISIERUNG

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Hochschulforum Digitalisierung (The German Forum for Higher Education in the Digital Age) (HFD) orchestrates the discourse on higher education in the digitalization era. It is a prime mover in advising and networking with stakeholders from higher education, government, industry and society.

The Forum was founded in 2014 as a joint initiative of the Stifterverband for promoting the humanities and science in Germany, the CHE Center for Higher Education, and the German Rectors' Conference. It is funded by the Federal Ministry for Education and Research. For more information on HFD, please visit https://hochschulforumdigitalisierung.de

ABOUT THIS STUDY

The "Feasibility Study for an Inter(national) Higher Education Platform" tackles the question of if and when, and if so, how or in what guise and at what cost, a platform for digital teaching that spans all of university-level education in Germany – but also internationally – can be meaningfully realized. It is a design proposal intended to serve as the basis for producing a feasible nationwide concept.

This English-language condensed version of the feasibility study highlights and discusses possible implementation options. The full-length version in German appeared in May 2018 and can be accessed under https://hochschulforumdigitalisierung.de/de/machbarkeitsstudie-hochschulplattform

BACKGROUND

An increasing number of higher education institutions in the USA and particularly in Europe and Asia are responding to the globally growing demand for academic education with new online offerings. Given the rapid pace of technological innovation, the sweep of digital networking, and AI-based "industry 4.0", academic-level qualification for professional careers and "lifelong learning" assumes ever more importance. By now, a plethora of web-based educational offerings – from social learning events or video lectures to mobile learning units with small content or massive open online courses (MOOCs) – are offered on multiple international platforms with or without certification and tutoring. Over 100 million participants are currently registered in the nearly 7,000 online courses offered on the large international MOOCs or learning platforms. Few are actually working toward a traditional degree (BA or MA) and barely a third still qualify as traditional students. Many are interested instead in acquiring skills and competencies documented frequently with microcertificates or other online evidence of academic achievement.

Behind these offerings for the most part are university teachers and universities as well university consortia and associations – even in the form of entrepreneurial initiatives or partnerships. German institutions of higher learning may contribute online courses to these platforms (some 80 Germany-based university-level institutions are on Coursera, edX, etc. with their own MOOCs), but digital study and training programs originating from German institutions have a very small footprint both quantitatively and qualitatively compared to the global norm. To put it another way: online offerings by German institutions in international comparisons are either scarce or they lack visibility. Normally, the digitalization projects by German higher education institutions are directed at modernizing their traditional courses both didactically and methodologically. A mere 10% or so offer complete online study programs, especially in the continuing education area. To sum up: German university-level institutions keep falling farther behind when it comes to digital course offerings for the rapidly growing target audience of lifelong learners.

AIMS OF THE FEASIBILITY STUDY

It is against this background that mmb Institute and Neocosmo conducted a joint feasibility study to explore options for building a national higher education platform (but one with a European perspective), to evaluate potential solutions and recommend implementation alternatives. In the process, it had to meet different parameters: openness to all higher education institutions, platforms, and online education formats and capacity for learning and teaching across higher education institutions. To be chosen, the platform concept had to be capable of hosting not only undergraduate studies but also informal course offerings and be suited for promoting synergies and resource sharing in digital higher education. Not least, it would have to ameliorate the brand of German higher education institutions by boosting their international visibility and that of their online programs.

Over the course of the five-month long feasibility study, these requirements were compared with solutions already in use elsewhere and scrutinized for technological, economic, political and legal challenges. This was based on extensive variance analyses on model-like prototypes and, of course, on bringing in diverse experts and stakeholders, higher education institutions, projects and initiatives.

INTERNATIONAL PLATFORM COMPARISON

8

Working Paper 41 – Feasibility study for an (inter)national higher education platform
Condensed version
INTERNATIONAL PLATFORM COMPARISON

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In comparing national and international strategies pursued by different purveyors of digital education, we can basically identify three different market segments.
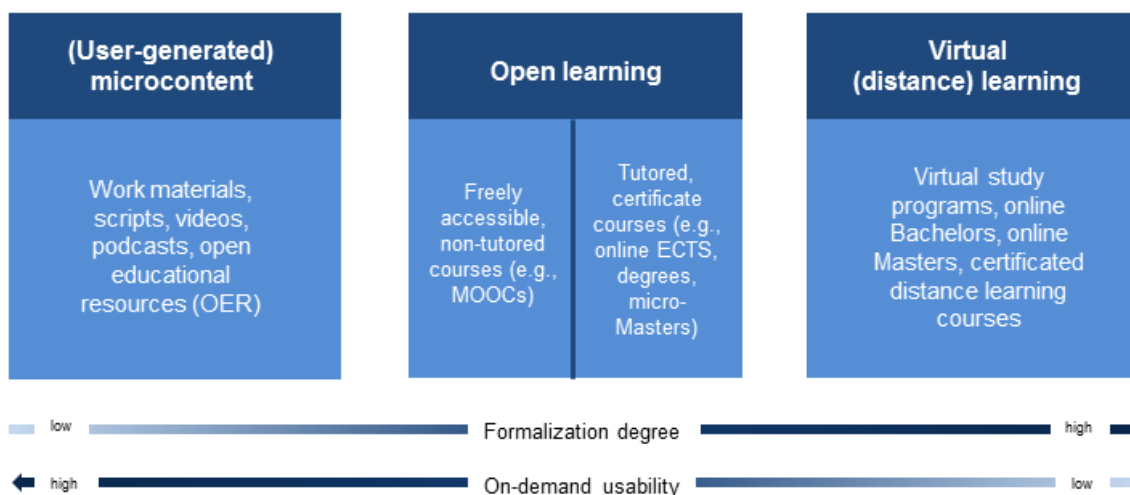

Figure 1: Market segmentation in digital academic education

User-generated microcontent: This segment stood out for its high on-demand orientation without aspiring to formal education. Users generate content such as lecture notes, learning and practice materials or instructional videos and publish them on various platforms, there to be shared, "remixed" and critiqued. Providers in this segment also include, in addition to video platforms like YouTube or TEDx, sharing platforms specialized for studying like Studydrive. University learning platforms based on ILIAS, Stud.IP, OLAT are frequently used precisely for this purpose, i.e., making teaching materials from on-campus courses available online. The user-generated segment overall is growing by leaps and bounds and for many students is an important part of daily life.

Open learning: The middle segment is dimensioned for formal learning, systematic knowledge transfer and didactic instructional design. Openly accessible courses without tutorial support here once again have to be distinguished from tutored certificate courses. In Germany, providers include openHPI, Hamburg Open Online University HOOU (currently in beta) and, among private vendors, iversity and kiron. This market segment globally is marked by high dynamic growth rates despite the fading hype around MOOCs. Every month between 70 and 140 new courses come online. The majority of users (> 70%) are over 25 years of age and therefore more likely to be counted among the employed rather than the student population. While most courses to date have emerged in the "self-paced", i.e., non-tutorially supported, area, the business model is just now beginning to turn toward guided offerings. Most new courses are developed as tutorially-supported with the possibility of earning a formal degree with credits or online ECTS points (European Credit Transfer and Accumulation System). Microcertificates that combine modular online courses with certificates – all the way to a MicroMaster credential – are another advanced format here.

Virtual studies: These are distance learning programs or virtual degree programs modeled on The Open University. Normally they require admission to the provider university or a designated partner institution. Students enrolling for a degree program are legally entitled to the services of the provider universities in accordance with their study regulations. This market segment of virtual course programs and distance learning offers is experiencing moderate growth. Providers in this area include the Virtuelle Hochschule Bayern (vhb) (Virtual University of Bavaria), the Hochschulverbund Virtuelle Fachhochschule (VFH) (Association of German Virtual Universities of Applied Sciences), the Fernuniversität in Hagen (FernUni Hagen) (Open University Hagen) although with only a few complete online study programs; the Virtueller Campus Rheinland-Pfalz (Rhineland-Palatinate Virtual Campus, and Hochschule WISMAR WINGS- Fernstudium (Wismar University WINGS distance university) as well as a considerable number of individual higher education institutions and private distance learning providers.

German universities are mainly active in the segment pictured on the right in the above figure, that is, in distance learning and virtual degree programs. Relevant offerings can be accessed in practically all German states and are seeing heavy use. The platforms In the left-hand segment of user-generated content are also experiencing rising demand.

By contrast, when it comes to offering programs in the middle segment of open courses with or without tutoring/credit, Germany is underrepresented. With just 180 of nearly 7,000 online courses offered since 2012, momentum is clearly lacking here.

TWO IMPLEMENTATION
VERSIONS

11

Working Paper 41 – Feasibility study for an (inter)national higher education platform
Condensed version
TWO IMPLEMENTATION VERSIONS

TWO IMPLEMENTATION VERSIONS

Given these prevailing challenges and requirements, we first sketched an implementation model A
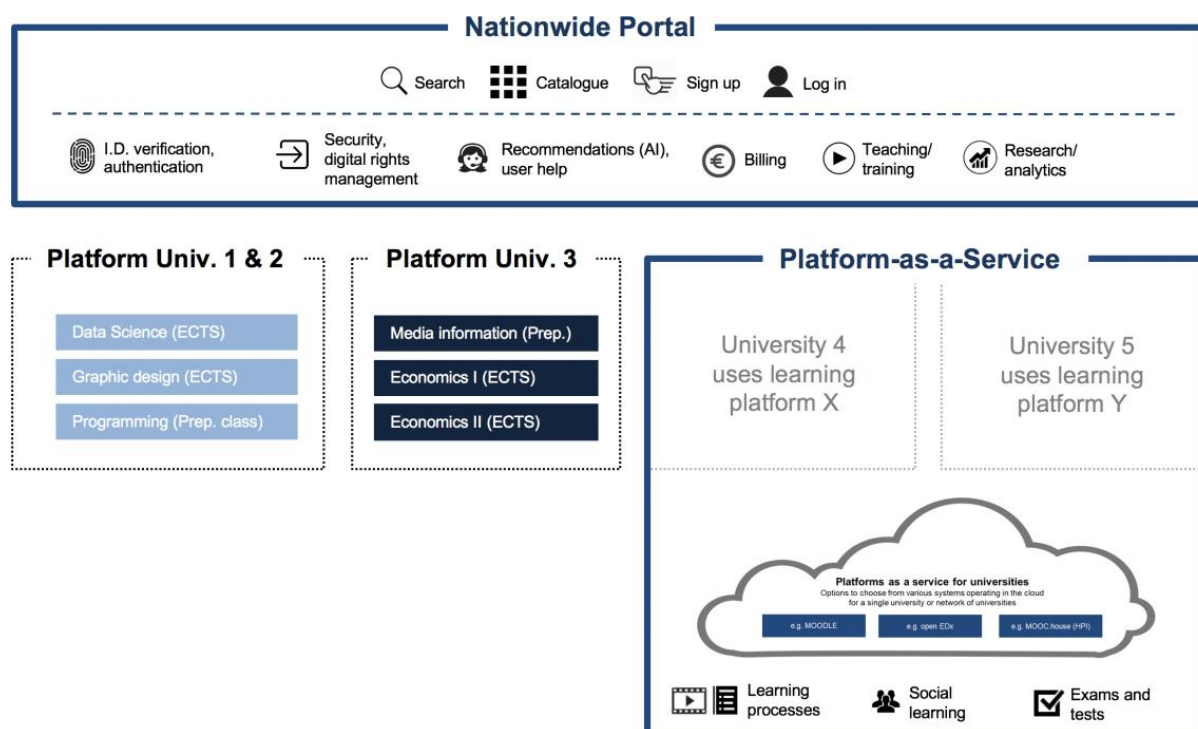(nationwide portal with networked platform services).

Figure 2: Nationwide portal with networked services

This model primarily aims to network existing online study programs, platforms, and solutions
interoperably and link them with additional services geared to digital studies. The model was discussed
in a multilevel, agile process with representatives of various interest groups as it was continually
fleshed out and refined. This showed that not only was there broad buy-in for this somewhat *supply-
oriented approach* but also critiques and open questions – particularly fears of complexity in achieving
openness and interoperability, but also ones homing in on usability, quality, and attractiveness of the
(available) learning content and systems.

These and other aspects led to developing an alternative, more *demand-oriented implementation
version B (stand-alone thematic portal with an integrated platform).* Unlike the networking concept A, it
focuses exclusively on a "stand-alone" portal that combines a limited but high-quality learning content
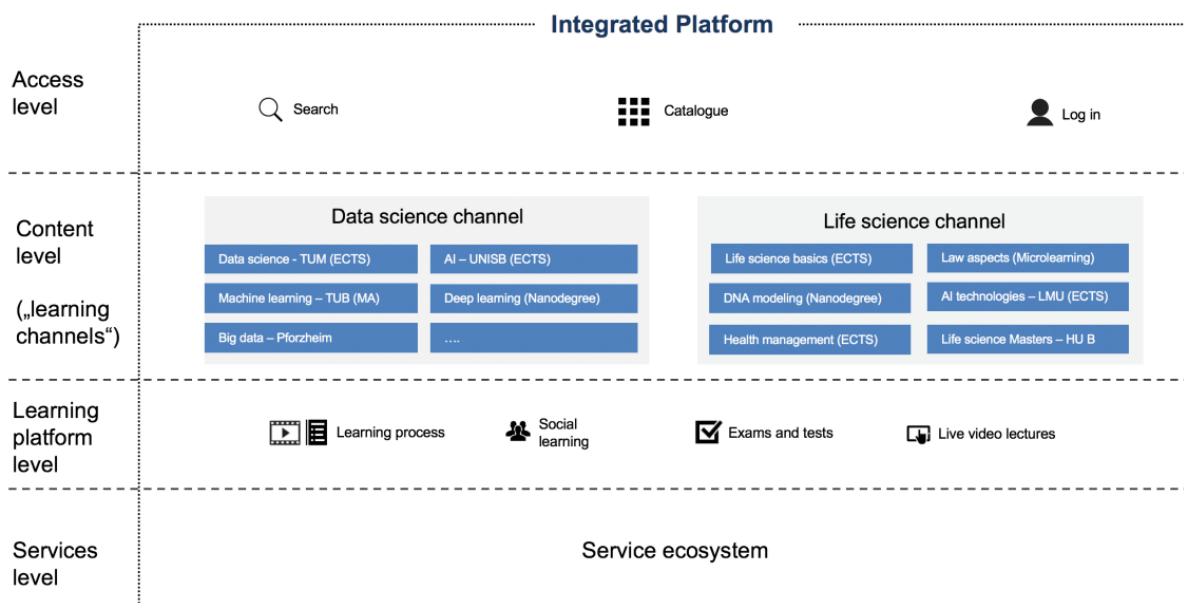portfolio with a coherent user experience.

TWO IMPLEMENTATION VERSIONS

Integrated Platform

| Access level | Search | Catalogue | Log in |

Content level ("learning channels")	**Data science channel**		**Life science channel**	
	Data science - TUM (ECTS)	AI – UNISB (ECTS)	Life science basics (ECTS)	Law aspects (Microlearning)
	Machine learning – TUB (MA)	Deep learning (Nanodegree)	DNA modeling (Nanodegree)	AI technologies – LMU (ECTS)
	Big data – Pforzheim	....	Health management (ECTS)	Life science Masters – HU B

| Learning platform level | Learning process | Social learning | Exams and tests | Live video lectures |

| Services level | Service ecosystem |

Figure 3: Thematic portal with integrated, nationwide education platform

Unlike with Version A, in B the stress therefore is not on interoperably linking, structuring, entering, and making existing contents, platforms and solutions searchable. The priority instead is to build a new, stand-alone seamless educational offering – one that comprises all necessary components, functionalities and, especially, high-quality and target audience-oriented contents in combination with the appropriate didactic-tutorial support in a user-friendly learning, communications, and interactivity environment.

Although version B could not completely conform to the actual specification profile for a national higher education platform, it was refined further as an alternative and evaluated comparatively. In the process it became clear that the advantages of this version reside especially in a consistent user experience, a simpler technological-organizational feasibility (also from a legal perspective), and a faster implementation timeline. It could also be aligned with strategic themes and target audiences (among others, lifelong learning offers). On the other hand, version A scores by sitting on top of an existing variegated content and thematic spectrum, by integrating existing solutions, and consequently by being able to count on broader acceptance and approval by higher education and platform stakeholders.

At the same time, comparing the two versions also highlighted the specific trade-offs inherent in the pair: the price inevitably paid for prioritizing goals such as openness and decentralizations, variety, participation and inclusiveness is a loss of transparency and usability, product claims and demand orientation. On the other hand, favoring clear performance and product claims as well as maximal target group and user orientation results to a degree in diminished openness, variety, and participation. Beyond this, a differentiated SWOT analysis revealed additional comparative strengths and weaknesses for both models. It was supplemented by a comparative legal expert opinion, which, although it held that the legal uncertainties attendant on version A, because of the multiplicity of possible players, potentially are greater and more complex than for version B, found that either version would be feasible from the legal perspective.

RECOMMENDATION

14

Working Paper 41 – Feasibility study for an (inter)national higher education platform
Condensed version
RECOMMENDATION

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Given that neither version A, as a decentralized, open networking project, nor version B, as a centralized education platform, could be recommended on their own for implementation for the reasons cited, the solution was to combine the two versions. The idea is to wrap up in one package the advantages and strengths of both versions and overcome the implementation challenges stepwise and with laser focus. This is the way to achieve overall organizational feasibility while gaining professional technical acceptance.

By striving for an open, networked education platform with a nationwide portal and integrated thematic channels for studies and career-supporting programs like lifelong learning, the weaknesses in both versions A and B cancel out and their strengths are combined. The result: the merged version becomes a sensible, feasible solution. Implementation is recommended and envisioned as happening in stages, each with a differing focus. First comes the development of a nationwide portal tied in with existing platforms for study-oriented offers. This is followed by a phased buildup of curricular contents in an integrated thematic portal with strategically important themes focused on lifelong learning and academic continuing education. In the process, the participating higher education institutions must be supported with comprehensive services so they can sustainably deliver the courses with high didactic quality and in professional form.

The next figure shows the recommended combined version graphically. It features uniform access to all course offerings – be they decentralized or centralized – through a nationwide portal that cuts across institutions of higher education.

- Institutions that already operate a platform or participate in one can connect to the portal and present their course offerings to a nationwide public, thus increasing their reach and visibility.

- Institutions of higher learning that do not yet have their own platform for open study offers, perhaps currently operating only an LMS for their own students, can draw on an open course platform offered by the national platform's operator as a software service. On this platform, its teachers can offer their educational offerings under the university profile while at the same time retaining full control over participant and student data. In doing so, they should ideally be able to choose among several solutions.

- In addition, offers can be bundled in a targeted manner by subject matter and built up through the thematic channels, with special focus on lifelong learning target groups. Universities can also cooperate, for example, in building a portfolio of themes. The federal government or the states are free to develop cooperative thematic channels. These offers would share a dedicated technological platform that provides a uniform user experience for all and that eventually could lead to developing a common standard for educational programs.
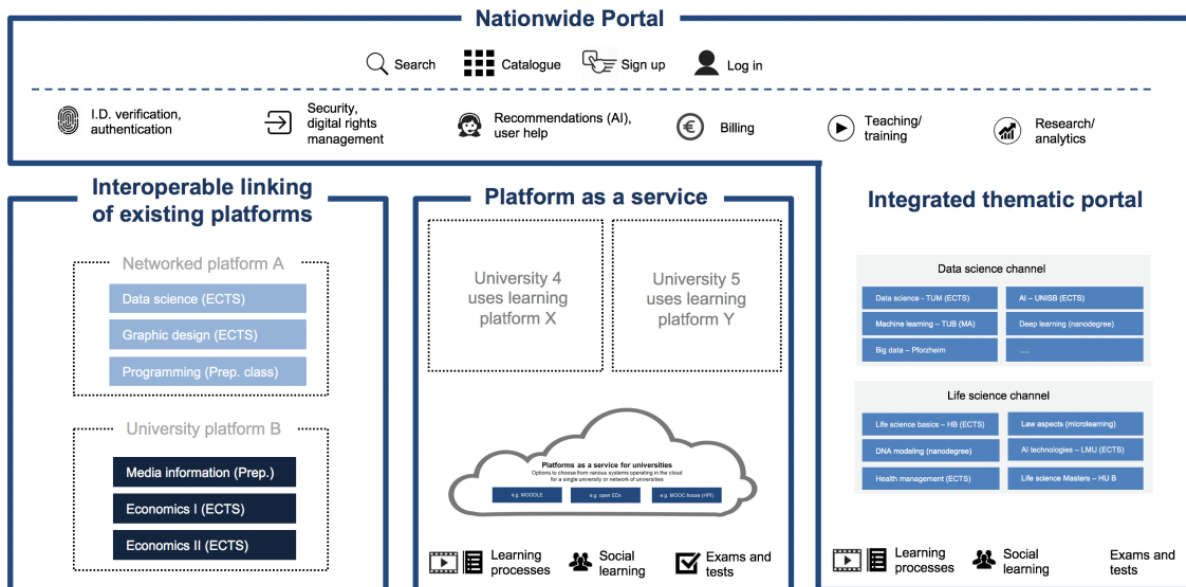
Figure 4: Recommended for implementation: open, networked education platform with nationwide portal and integrated thematic channels for degree studies and (professional development) lifelong learning offerings.

In principle, this recommended implementation calls for an independent, entrepreneurial "joint venture" by all or a few representative higher education institutions, possibly partnering with corporate education facilities, private universities or foundations. It must be capable, on the one hand, of executing on the technical challenges of this project, but, on the other, also of fielding the necessary competencies for managing content-editorial and marketing-oriented tasks. Furthermore, the higher education platform must face both "inward" toward institutions of higher learning and education policymakers and "outward" toward users, lifelong learning customers, and partners, and it must be amenable to rapid upscaling.

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