

The digital university: and other mythical creatures

Richard Harvey

IT Livery Company Professor of Information Technology, Gresham College

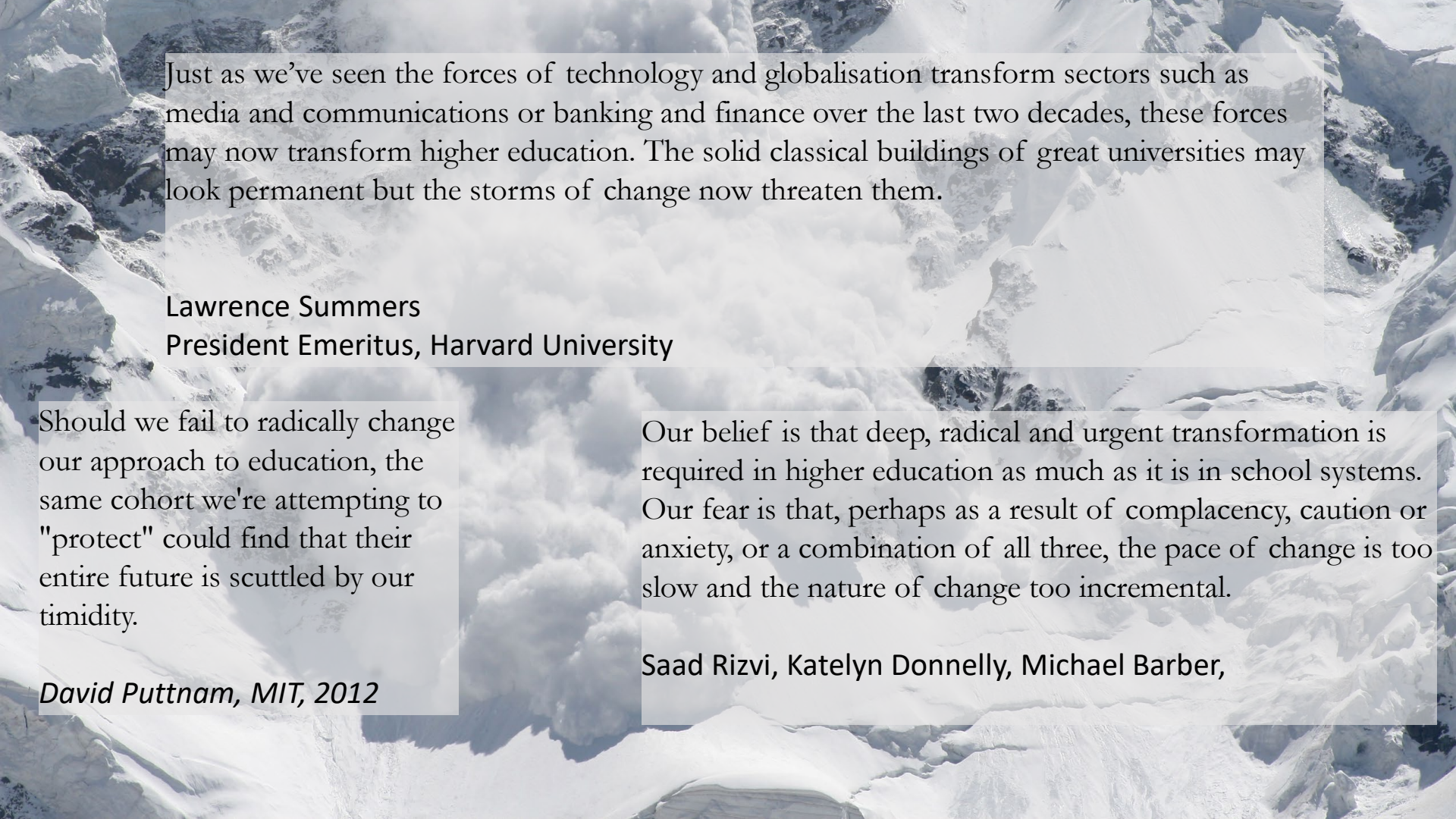
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University of East Anglia

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Laurentius de
Volterra dixit



Just as we've seen the forces of technology and globalisation transform sectors such as media and communications or banking and finance over the last two decades, these forces may now transform higher education. The solid classical buildings of great universities may look permanent but the storms of change now threaten them.

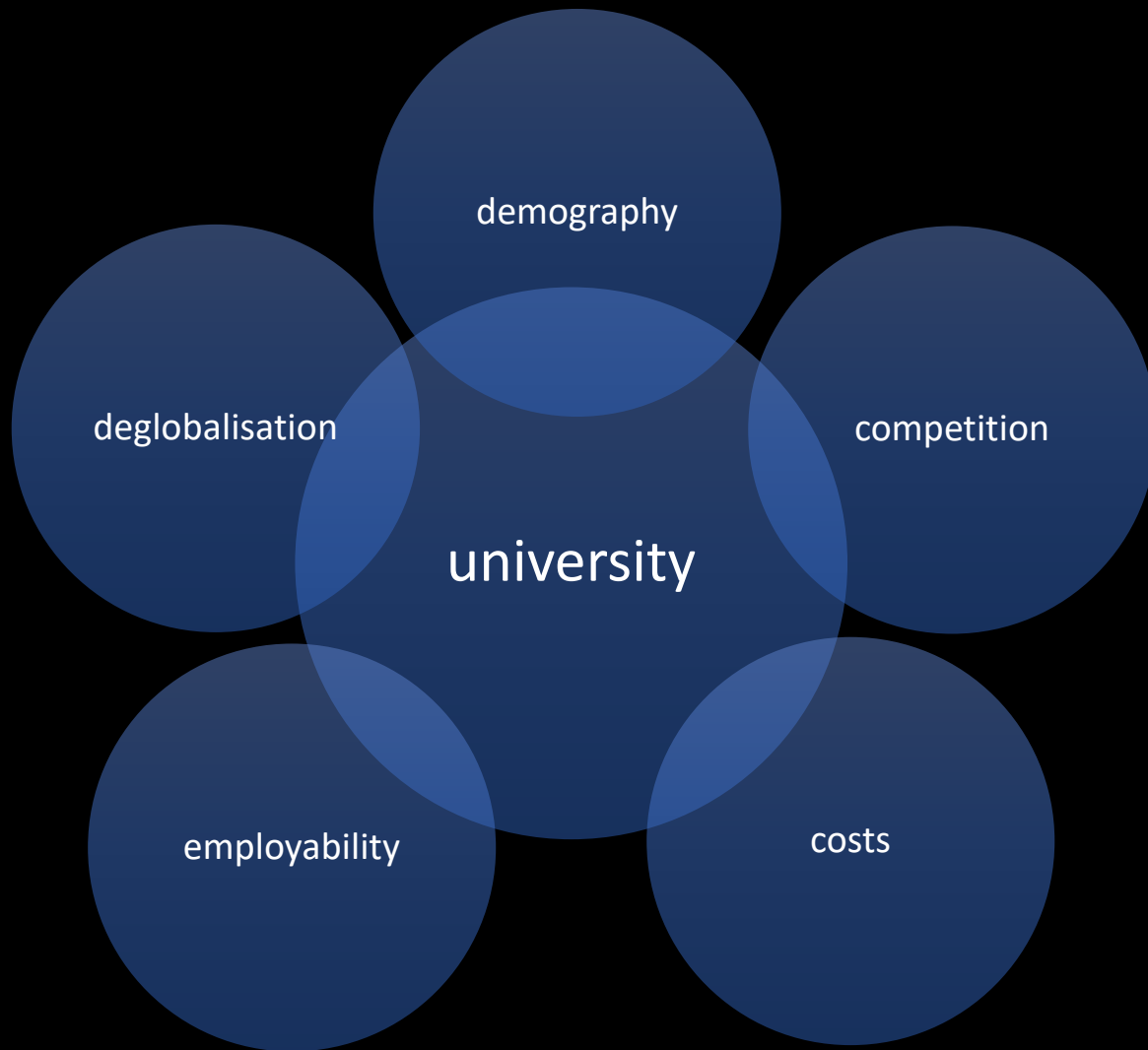
Lawrence Summers
President Emeritus, Harvard University

Should we fail to radically change our approach to education, the same cohort we're attempting to "protect" could find that their entire future is scuttled by our timidity.

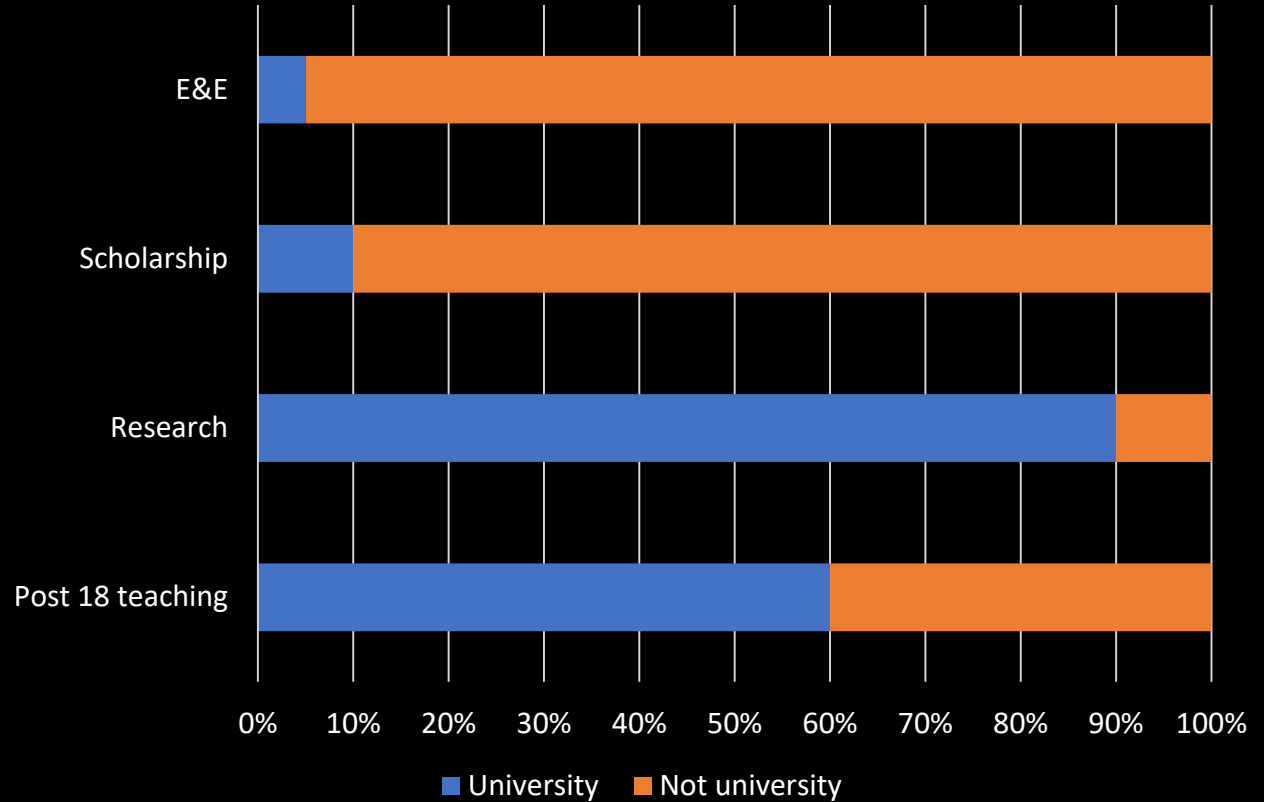
David Puttnam, MIT, 2012

Our belief is that deep, radical and urgent transformation is required in higher education as much as it is in school systems. Our fear is that, perhaps as a result of complacency, caution or anxiety, or a combination of all three, the pace of change is too slow and the nature of change too incremental.

Saad Rizvi, Katelyn Donnelly, Michael Barber,



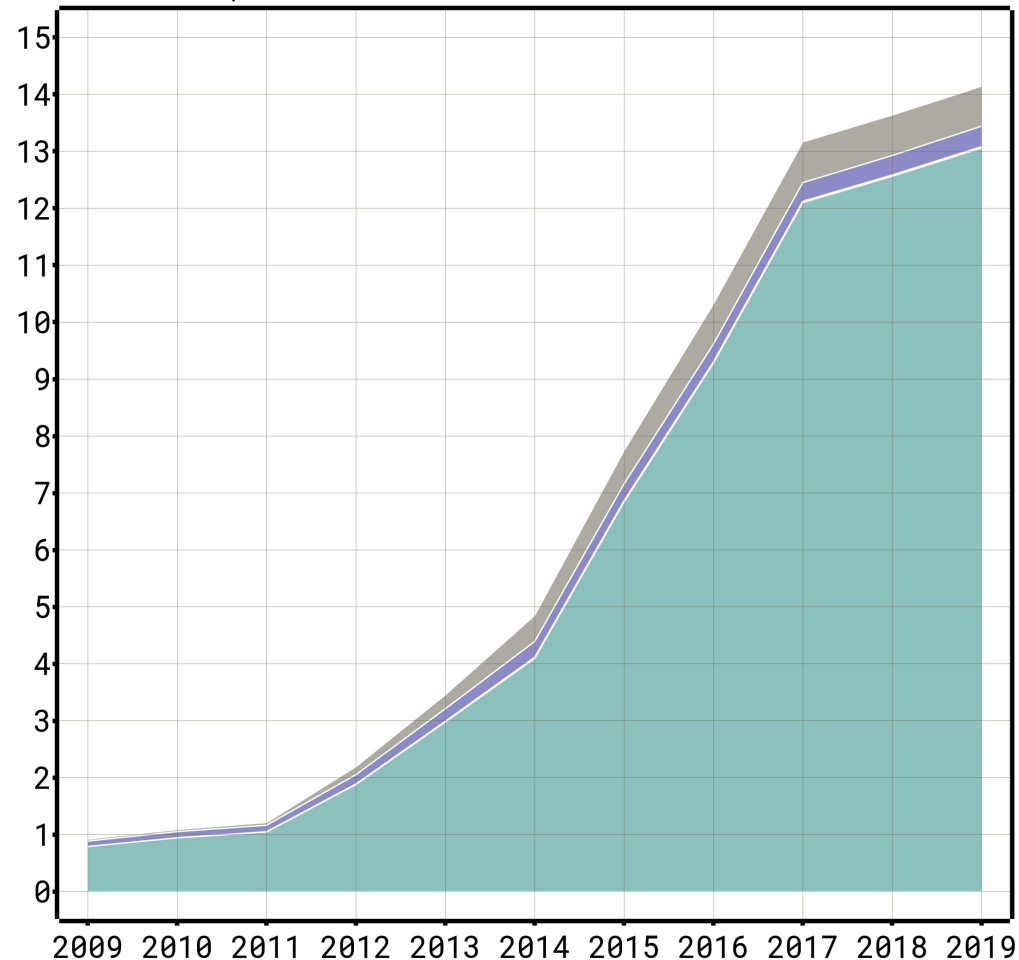
What do universities do?



Higher Education is big
business, Mark Corver,
WonkHE Blog, 11th Nov
2019,

[https://wonkhe.com/blogs/
higher-education-is-big-
business/](https://wonkhe.com/blogs/higher-education-is-big-business/)

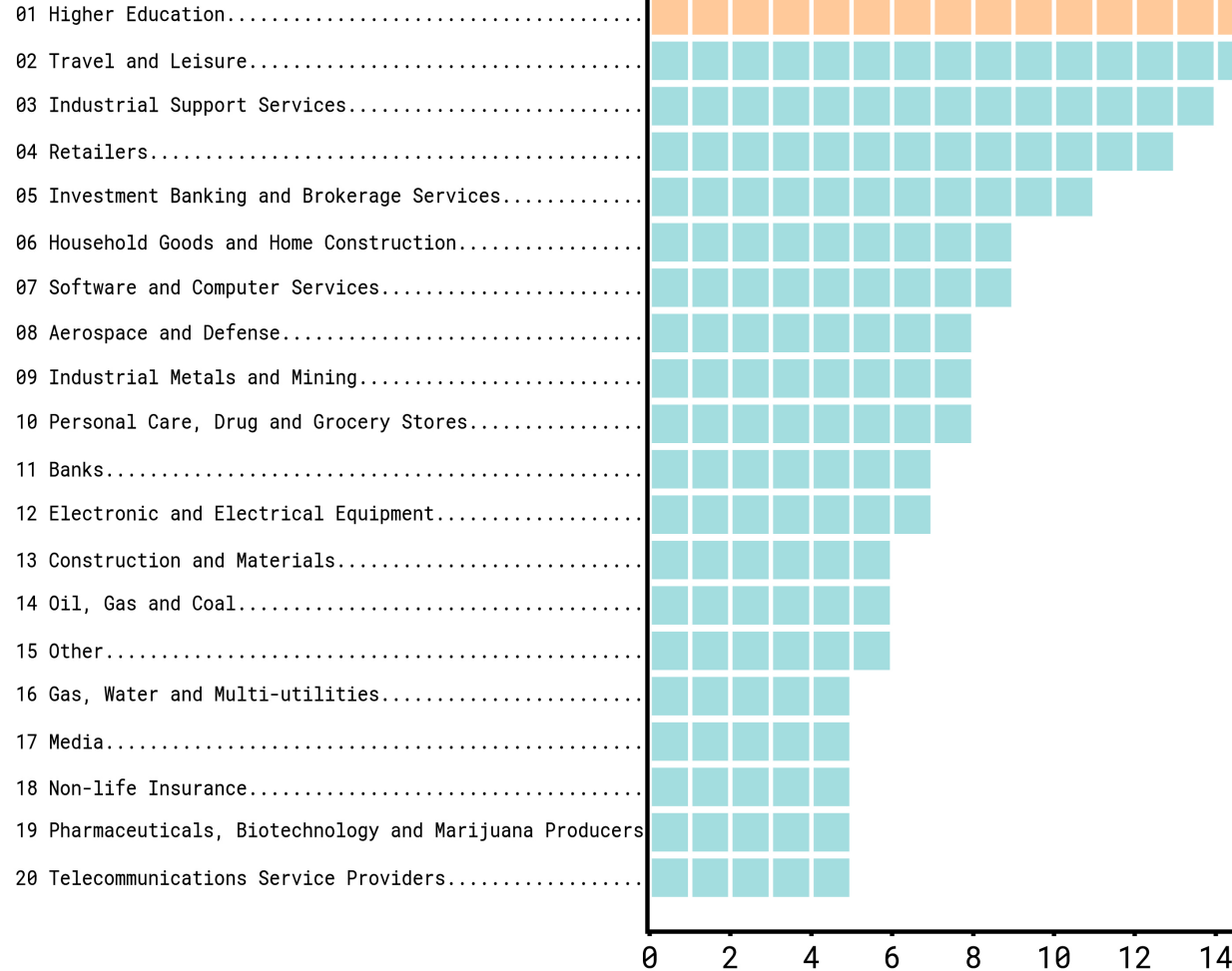
Competitive revenue (£Bn) FT UG fees by provider country
Provider=All,domicile=All



dataHE_mvAA_PC

Higher Education is big
business, Mark Corver,
WonkHE Blog, 11th Nov
2019,

[https://wonkhe.com/blogs/
higher-education-is-big-
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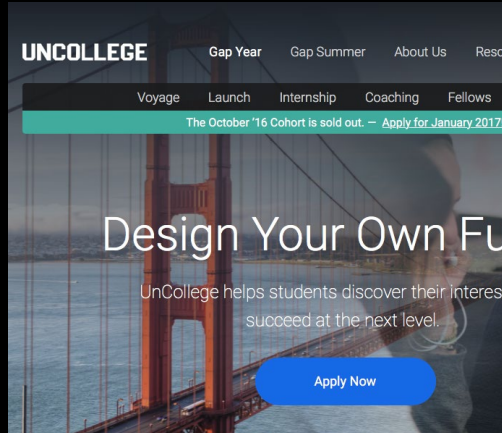




Thiel Scholarship



Deep Springs College, California

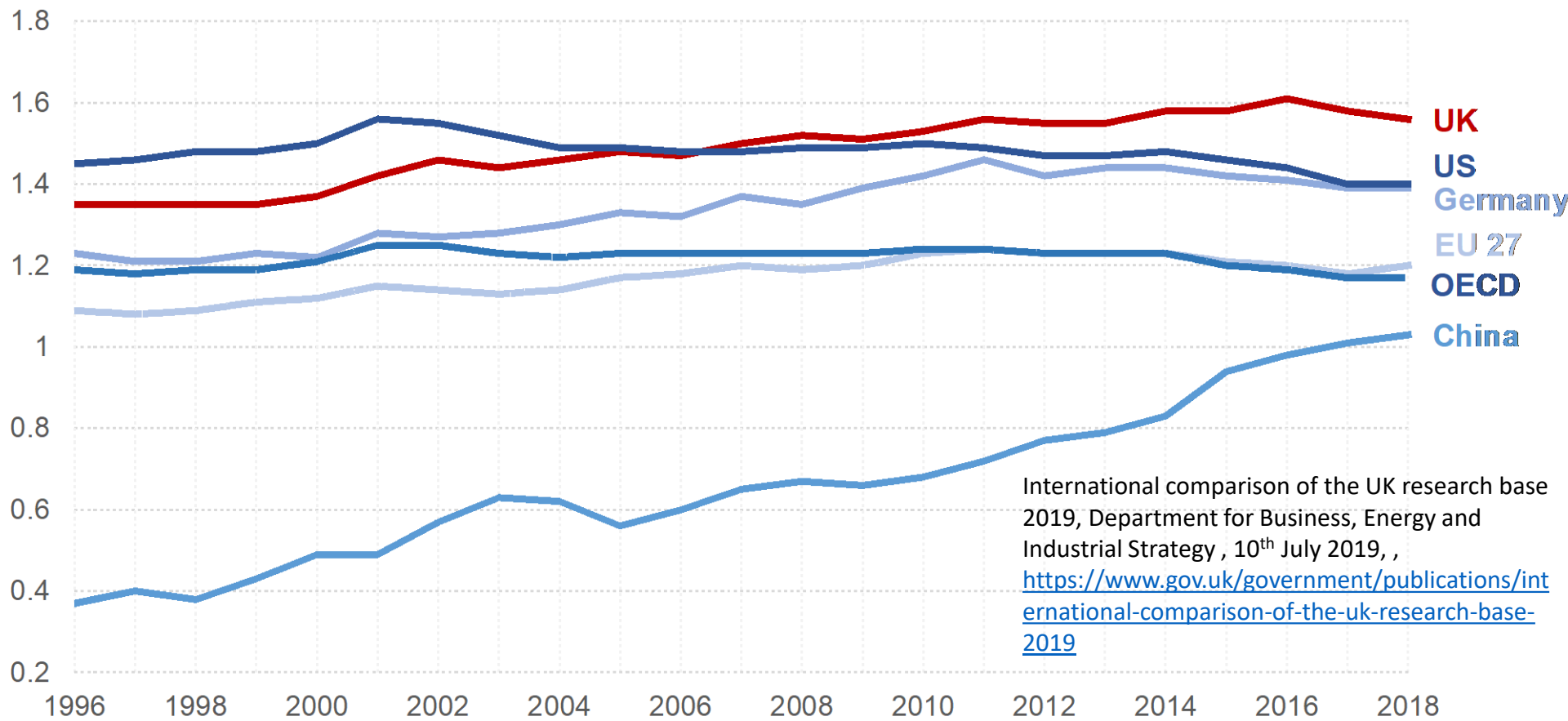


UnCollege



Minerva

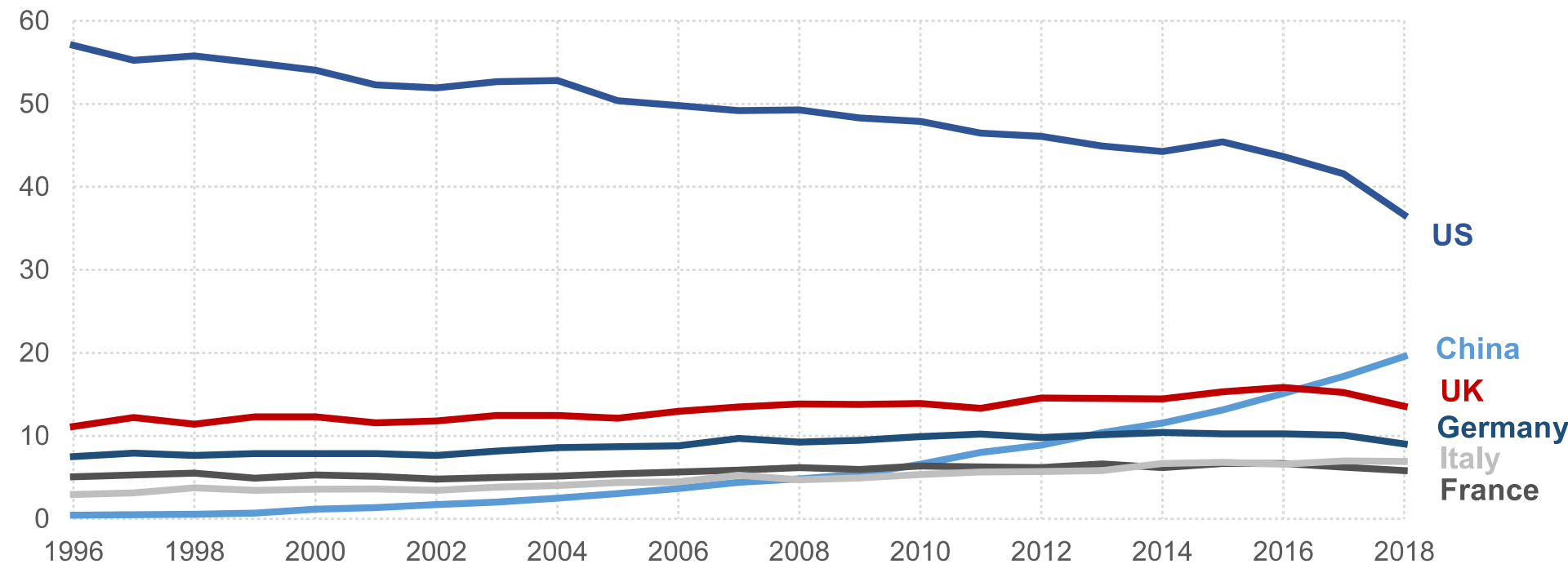
Figure 1: Field-weighted citation impact



International comparison of the UK research base
2019, Department for Business, Energy and
Industrial Strategy , 10th July 2019, ,
<https://www.gov.uk/government/publications/international-comparison-of-the-uk-research-base-2019>

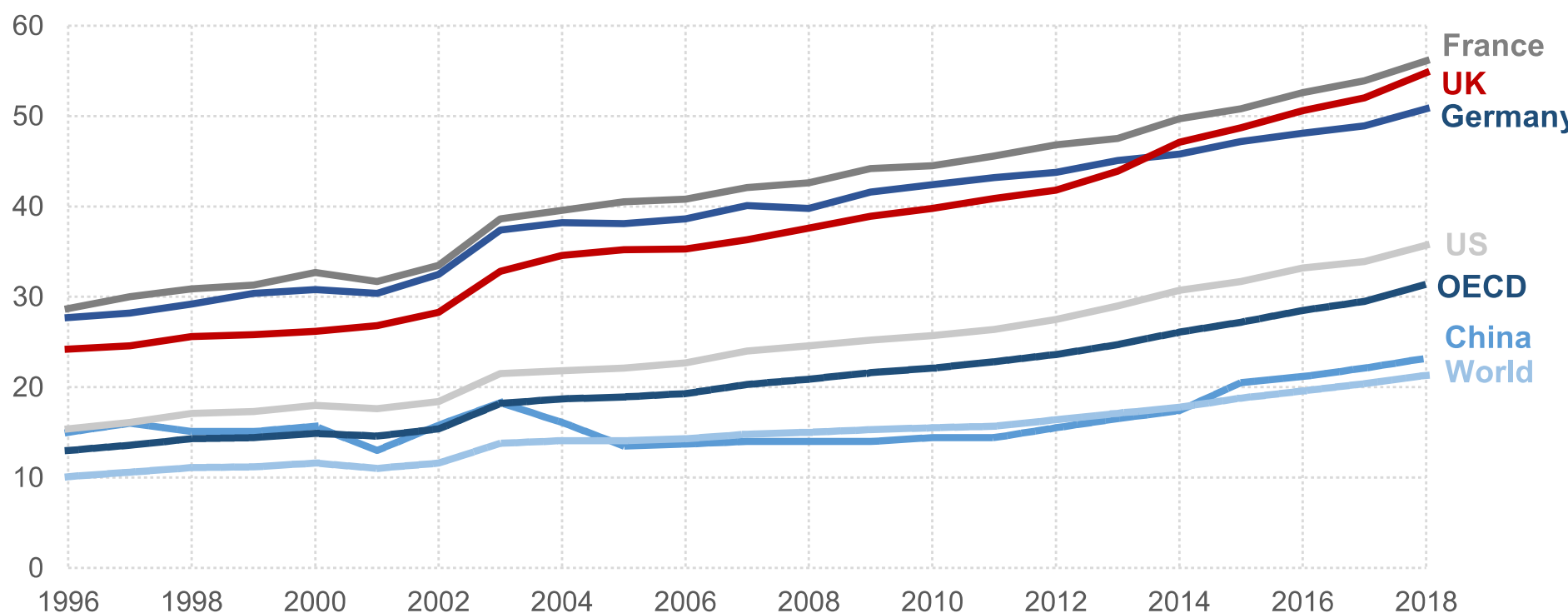
Source: Scopus

Figure 2: Share of the world's most highly-cited publications. %



Source: Scopus

Figure 4: Share of publications which resulted from international collaboration. %



Source: Scopus

International comparison of the UK research base 2019, Department for Business, Energy and Industrial Strategy , 10th July 2019, , <https://www.gov.uk/government/publications/international-comparison-of-the-uk-research-base-2019>

MOOCs

2009
P2PU

2010
Udemy

2012



coursera

**Future
Learn**

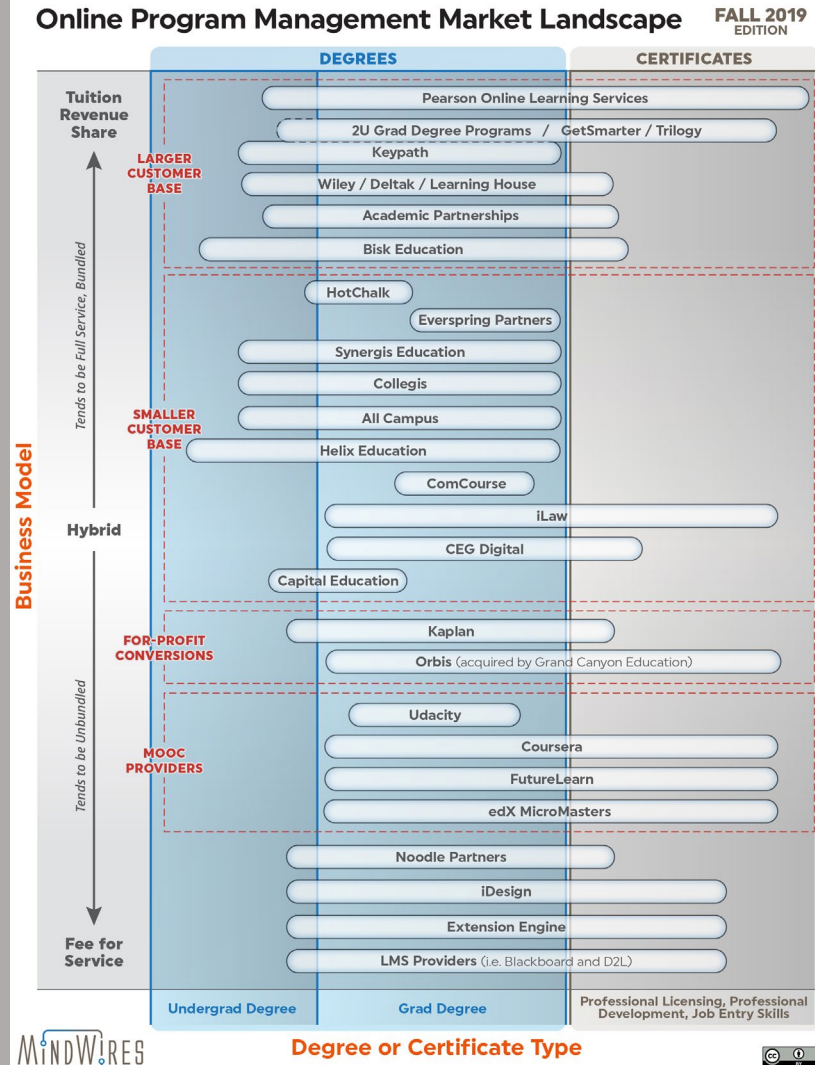
FUN

FRANCE
UNIVERSITÉ
NUMÉRIQUE

2013



Online Program Management: An updated view of the market landscape for 2019, Phil Hill, Sept 27 2019, Source: <https://philonedtech.com/opm-updated-2019-market-landscape/>



VLEs or LMSs



Blackboard



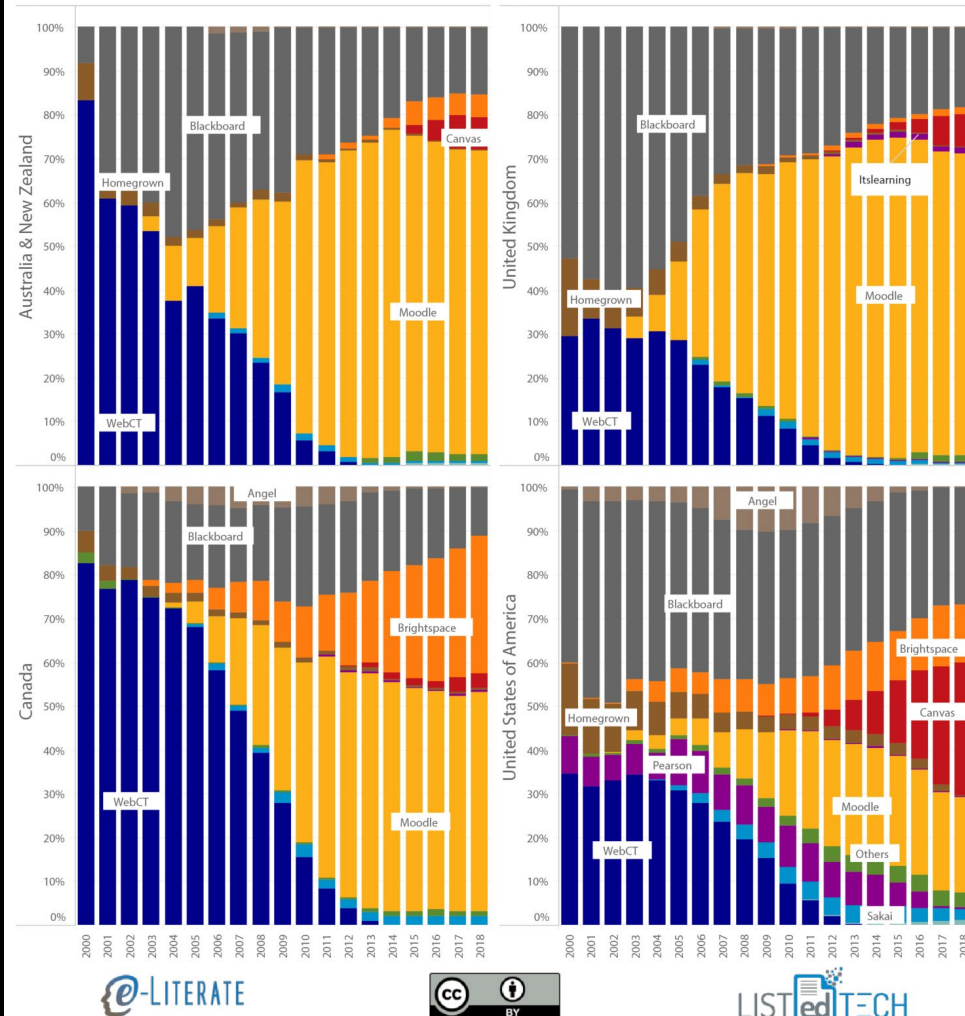
canvas

moodle

D2L™

<https://www.listedtech.com/blog/contrasting-lms-adoption-patterns-in-four-english-speaking-countries>

Historical LMS Data by Country



Learning Analytics in Higher Education: review of UK and international practice, Niall Sclater, Alice Peasgood, Joel Mullan, JISC, April 2016

Purdue University, Indiana, United States

Identifies potential problems as early as the second week of term.

Users seek help earlier and more frequently.

Led to **12%** more B and C grades.
14% fewer D and F grades.

University of Maryland, United States

Students who obtain low grades use the VLE **40%** less than those with C grades or higher.

Used to identify effective teaching strategies which could be deployed on other modules.

Nottingham Trent University, UK

Strong link with retention- less than a quarter of students with a low average engagement progressed to the second year, whereas over **90%** of students with good or high average engagement did so.

Strong link with achievement - **81%** of students with a high average engagement graduated with a 2:1 or first class degree, compared to only **42%** of students with low average engagement.

27% of students reported changing their behaviour after using the system.

Received a positive reception among students and staff.

One third of tutors contacted students as a result of viewing their engagement data in the Dashboard.

Open University, UK

Analytics used to:

- » inform strategic priorities to continually enhance the student experience, retention and progression
- » drive interventions at student, module and qualification levels

University of New England, Australia

Learning analytics is part of a wider ecosystem of engagement with students via social media to foster a sense of community amongst students who may be studying part time or at a distance as well as on campus.

The Open Universities Australia

Analytics used to:

- » drive personalisation and adaptation of content recommended to individual students
- » provide input and evidence for curriculum redesign

Edith Cowan University, Perth, Western Australia

Created probability of retention scores for each undergraduate student - used to identify students most likely to need support.

Wollongong University, Australia

SNAPP visualises participant relationships in online discussion forums in real time, as a network diagram. It helps facilitators to avoid dominating the conversation and encourage greater engagement with students who are less connected with their peers in the forum.

California State University, Chico, United States

Found that use of virtual learning environment can be used as a proxy for student effort.

VLE use explained **25%** of the variation in final grade - and was **four times** as strongly related to achievement as demographic factors.

Marist College, New York, United States

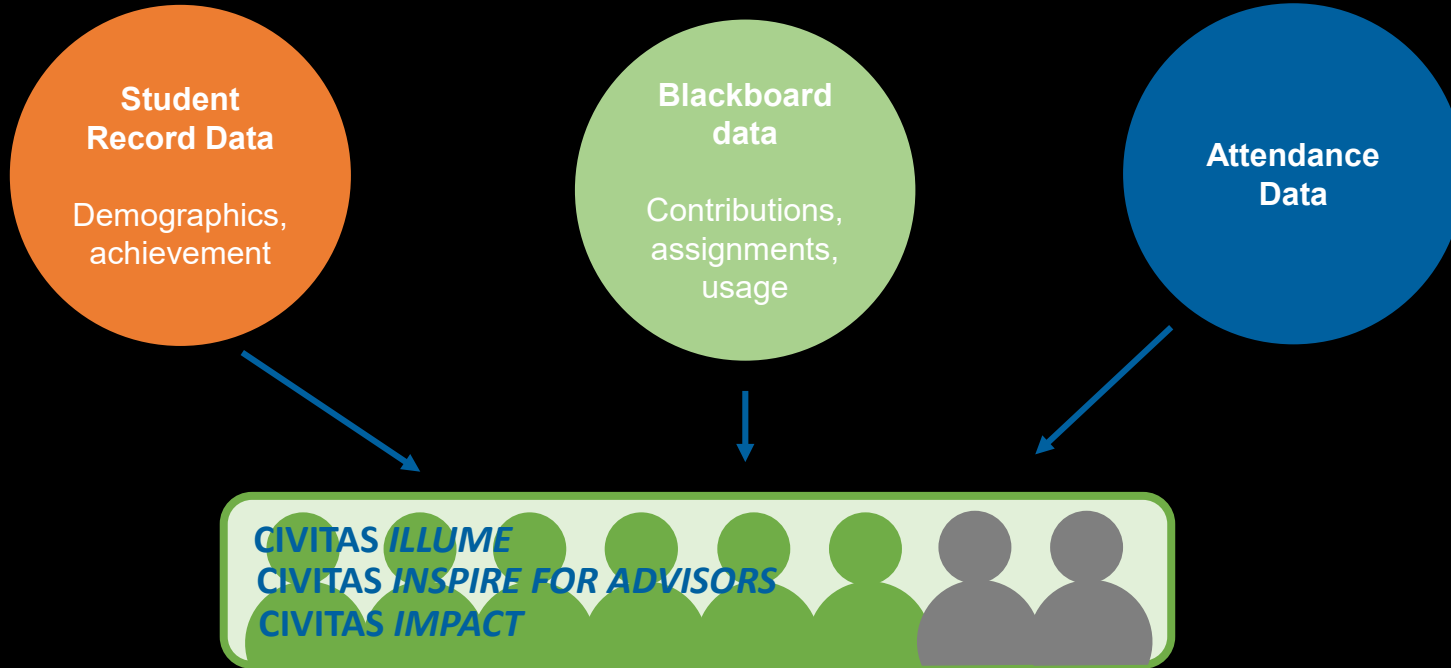
Predictive model provides students with **earlier feedback** - allowing them to address any issues before it is too late.

6% improvement in final grade by at-risk students who received a learning intervention.

New York Institute of Technology, New York, United States

74% of students who dropped out had been predicted as at-risk by the data model.

UWL case study



Bibliometrics



Student services

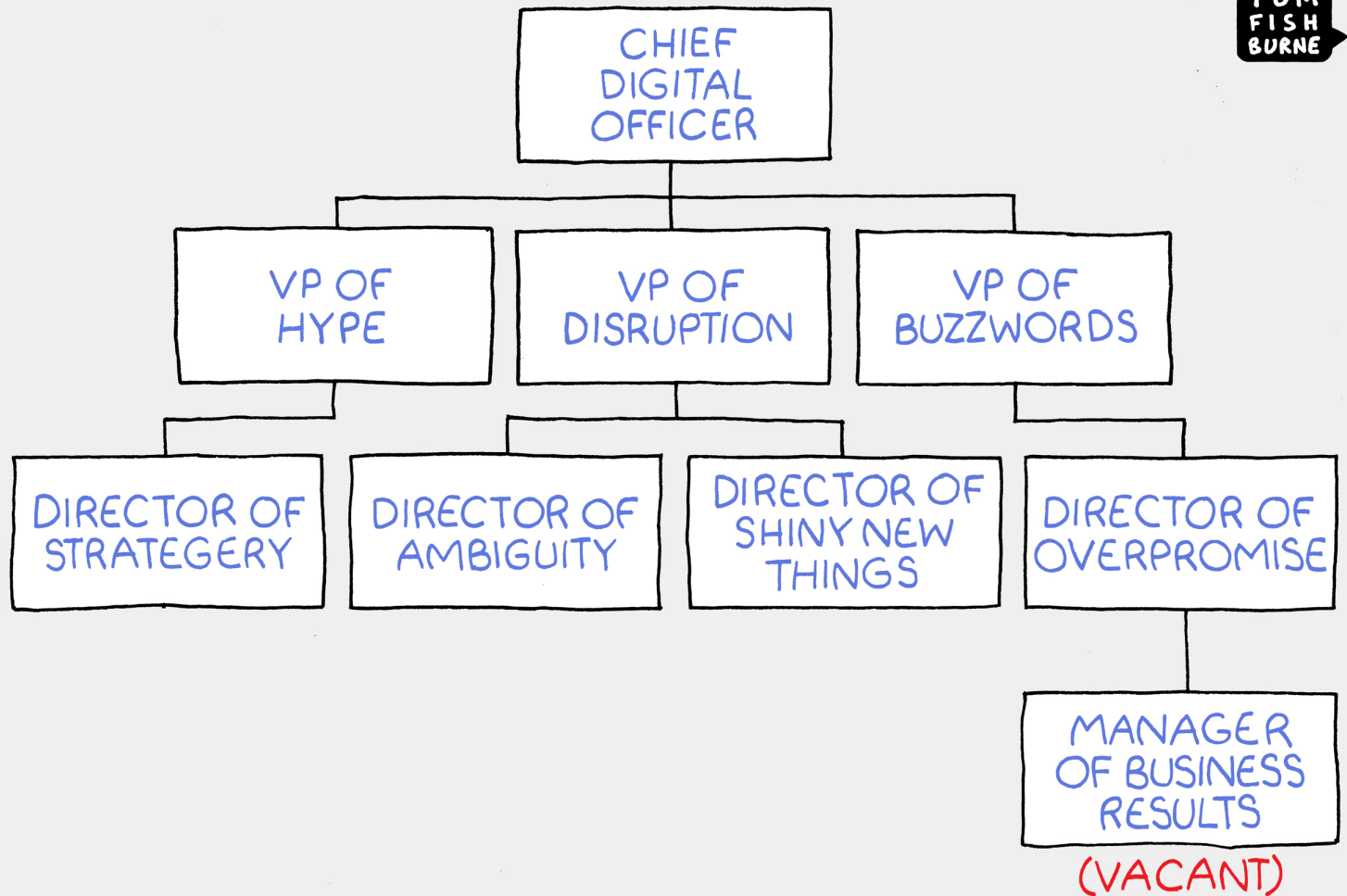


Student services



Third leg activities

- Internationalisation
- Knowledge exchange
- Enterprise
- Engagement



Digital natives?



“A magazine is an iPad that does not work properly” [Youtube: UserExperiencesWorks](#)

Digital natives?

The one thing that does not change is that at any and every time it appears that there have been 'great changes'
Marcel Proust, *Within a Budding Grove*

Bennett, S. J., Maton, K. A. & Kervin, L. K. (2008). [The 'digital natives' debate: a critical review of the evidence.](#) British Journal of Educational Technology, 39 (5), 775-786.

Next lecture:

“Digital healthcare: will the robot see you now?”

Tuesday 17th March 2020 at 18:00 (6pm)
London Time

www.gresham.ac.uk