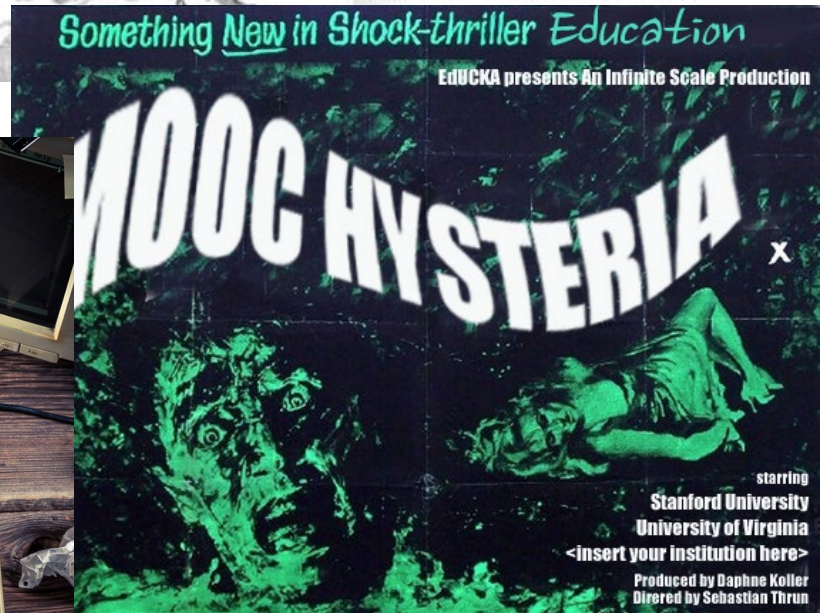
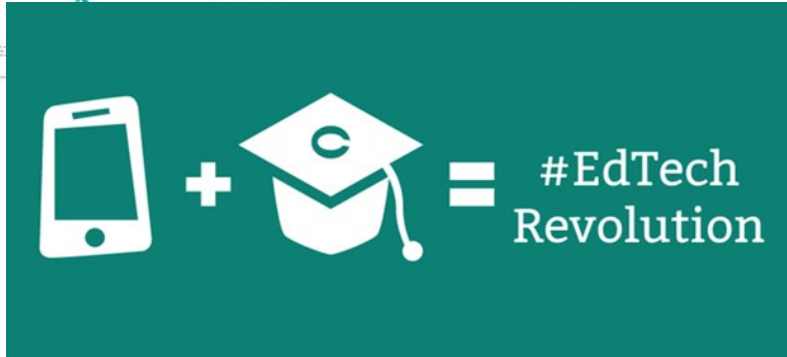
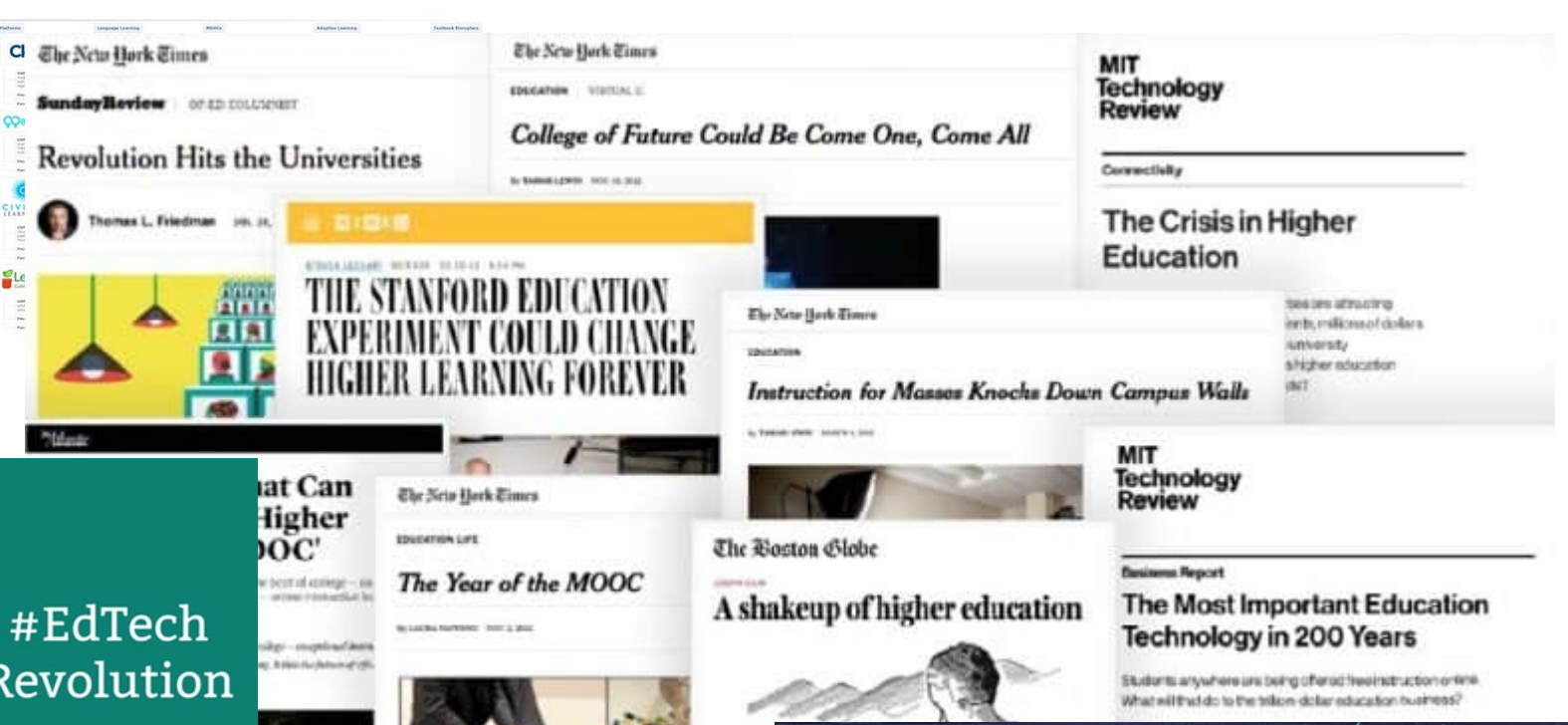
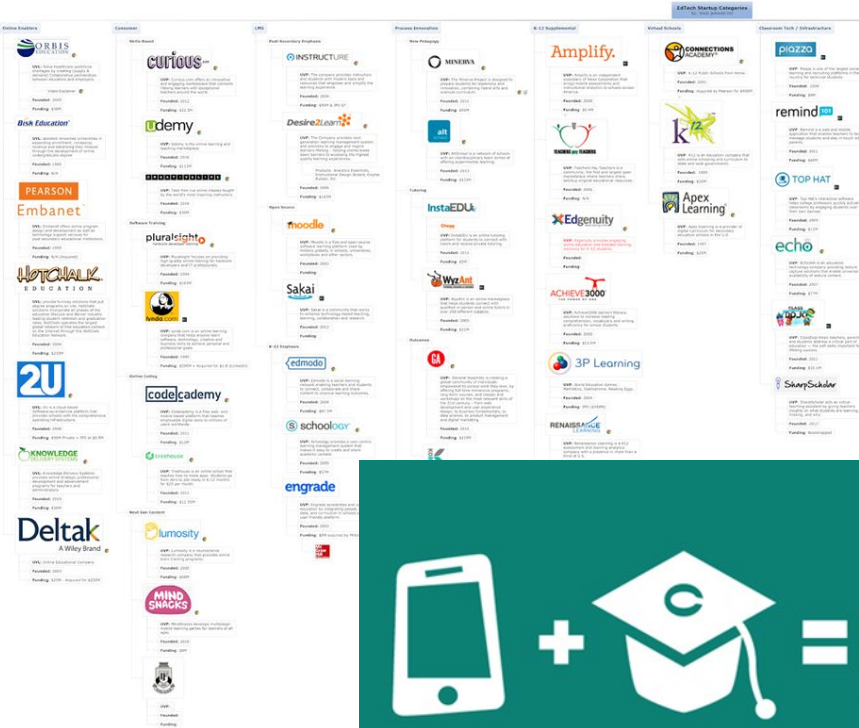


Will technology save us?

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WONKHE



A college education for anyone who wants it. A complete course in practically any of the subjects now named in the college curriculum – for five dollars; an elementary course in these subjects for one dollar, and a single far-reaching lecture on one of them by a worldwide authority for ten cents”

Professor Michael Pupin,
Popular Science Monthly, February 1923

*Education is properly **the development and training of the individual body, mind, and will**; but when it is systemized and provided for many thousands simultaneously it almost inevitably takes to military methods [that produce] a lock-step and a uniform speed”*

Ben Wood,
Teachers College Record, December 1936

“Education is so overcrowded that many only attend part time, and there is a nationally reported shortage of teachers. What amounts to a new industry, devoted to the sale of educational devices, is arising... developing such specialized units as the electronic learning centre”

David A. Loehwig
*Barron's National Business and
Financial Weekly, May 1960*

“Already, the increasingly technical world uses more scientists and engineers, yet the very industrial development... takes the engineers and the scientists away from the university... and makes the long study of science seem unattractive.

The new technological society is going to be accompanied by a weakened ability to keep pace, education-wise”

Simon Ramo
Engineering and Science, October 1957

How to make edtech million\$\$

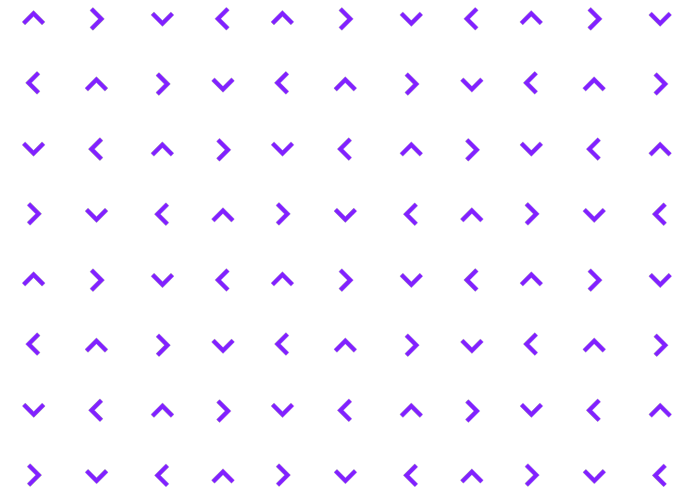
The pitch

- **describe a problem state:** broad brush, appeals to stasis/provider interest, (apocalyptic language is a bonus)
- **extinction risk:** make the issue an existential one for incumbents. Make it imperative to act.
- **the oncoming storm:** draw parallels with other sectors that have (or appear to have been) changed forever by the advent of technology, or by other changes.
- **plausible solution:** play up simplicity, time-saving, attractiveness. Downplay detail and minimise the impression of cultural rather than technological change.
- **Inane slogan:** double down on the nonsense.

The world of work is changing rapidly – today's graduates will spend their working lives in careers that do not currently exist. Universities that do not change to meet this new reality will inevitably die – like the record industry died after Spotify disrupted the way we consume music.

Universality Inc offers a simple way to keep large collections of high quality digital media up to date, saving staff time in preparing high quality lectures and allowing students the chance to benefit from cutting edge industrial knowledge.

Education is broken – somebody should do something.



Edtech – the theories



Behaviourism

(Skinner)

Repetition and reward, drill-and-kill, test preparation.

Social constructivism

(Illich, Papert)

Individual making sense of the world around them, drawing on peers and support networks (“connectivism”)

Cognitive learning

(Piaget, Baddery)

Adapting methods and tools (within bounded states) to suit individual learner needs.

“Administrativism/ Big Data”

(Any airport business book)

Efficient access to and use of data to solve problems

EDUCATION
ON BUSINESS

Disruption

(Christiansen)

Lower quality, lower price service or product expands the market and reaches new audiences.

Entrepreneurial state

(Mazzucuto)

Long term stable state funding to support innovation.

Lead user theory

(Von Hippell)

Watching and learning from the adaptations expert users make in response to deficiencies in existing tools or processes.

“Silicon valley growth”

(Wired)

Growing a user base without correspondingly growing income.

expectations

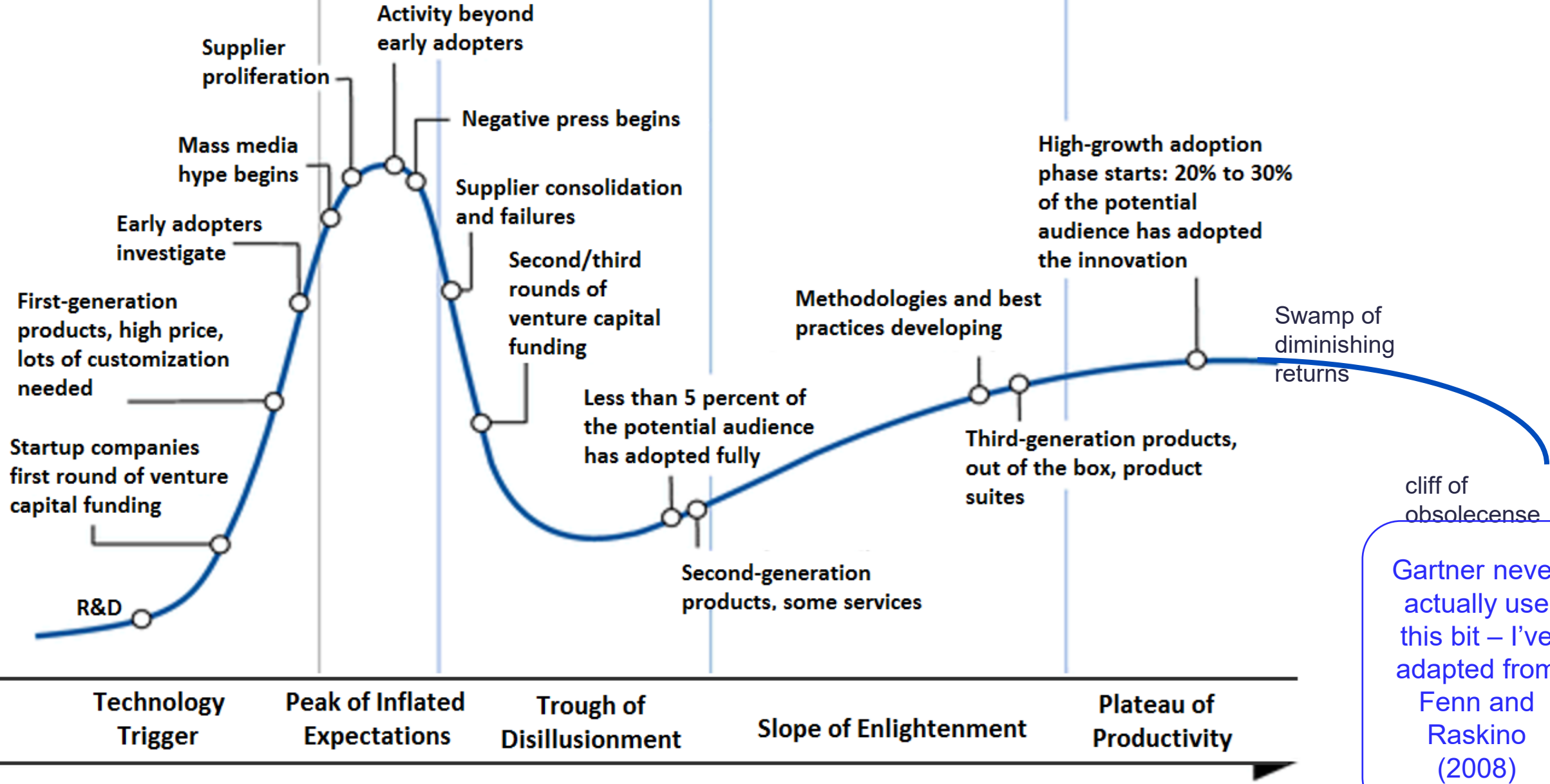
On the Rise

At the Peak

Sliding Into the Trough

Climbing the Slope

Entering the Plateau



cliff of
obsolescence

Gartner never actually use this bit – I've adapted from Fenn and Raskino (2008)

Technology Trigger

Peak of Inflated Expectations

Trough of Disillusionment

Slope of Enlightenment

Plateau of Productivity

time

The real edtech

Exciting? No Useful? Yes

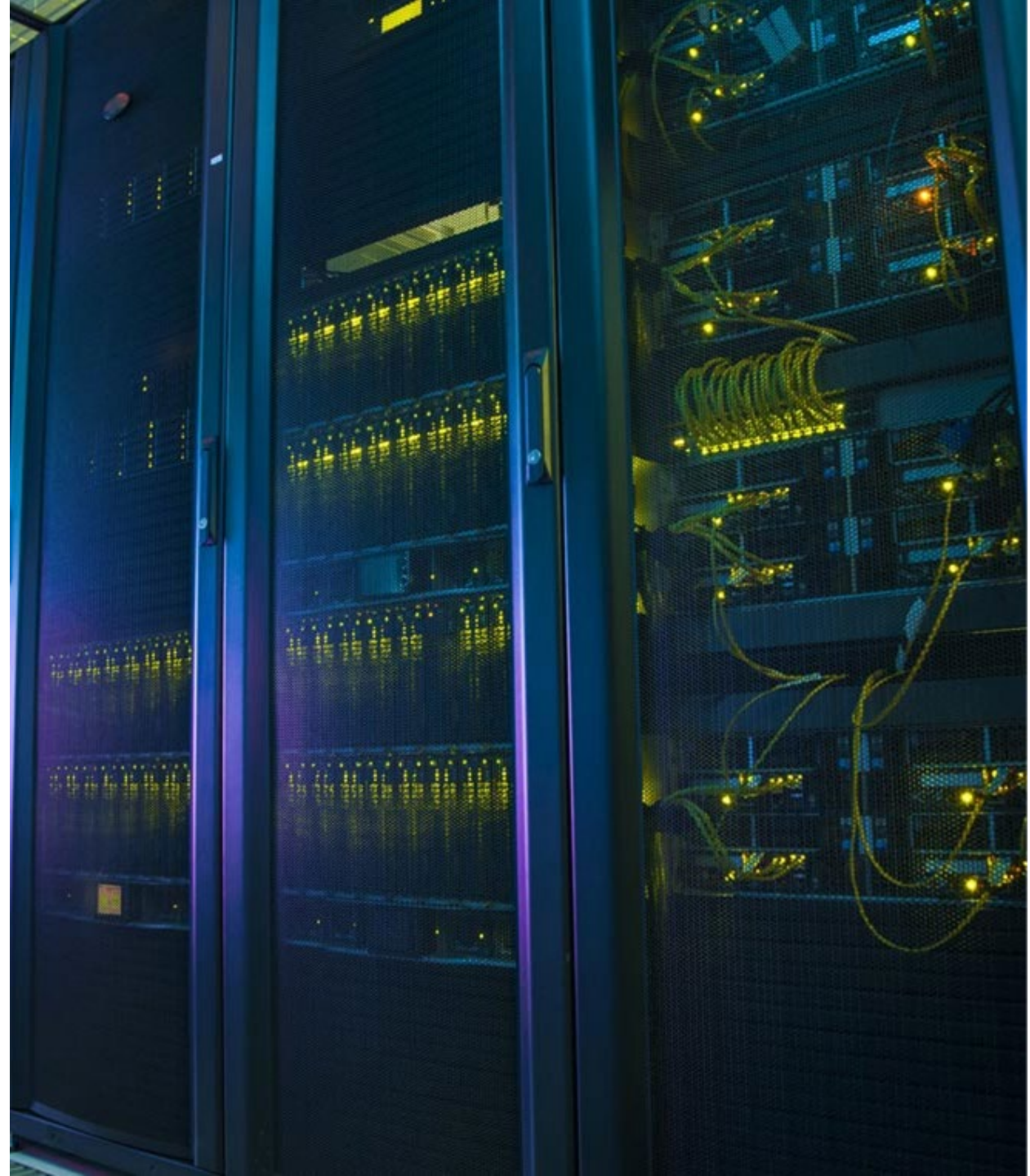
(It's actually quite exciting, if I'm honest)

In the real world, universities and edtech largely coexist in an equilibrium.

We tend to think of devices or software – but it is easiest to think about processes or approaches.

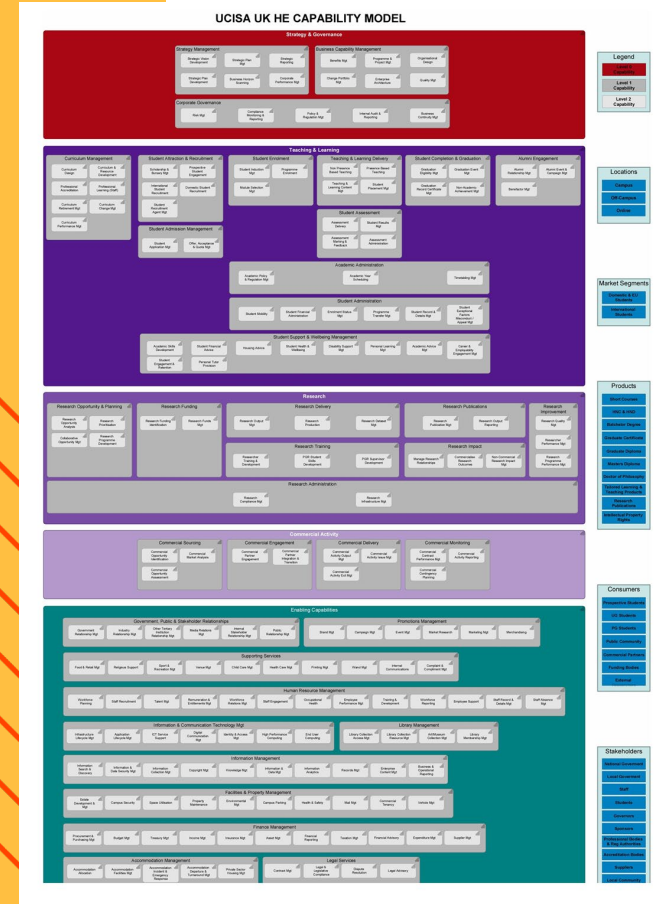
There is technology in every part of the university, but we don't often think about it critically. It feels like a different species of thing to commercial edtech.

What is critical about enterprise edtech is how it all fits together.



There are hundreds of discrete processes associated with running a university. Each will have a range of software and hardware associated with it – some may be owned and operated in house, others will be bought in as a service.

Each of these services – and the way these services interact - has an impact on the student and staff experience.



Currently outsourced provision (UCISA TEL survey 2020)

Response	Total		Type			Country			
	No	%	Pre-92	Post-92	Other	Eng	Wal	Scot	NI
<i>(Base: All respondents)</i>		(93)	(39)	(43)	(11)	(77)	(5)	(9)	(2)
Lecture capture platform	50	54%	59%	54%	36%	57%	60%	22%	50%
E-portfolio	36	39%	36%	47%	18%	39%	60%	33%	0%
VLE platform – supporting the delivery of blended learning courses	35	38%	36%	44%	18%	38%	40%	22%	100%
VLE platform – supporting the delivery of fully online courses	33	36%	36%	42%	9%	36%	40%	11%	100%
Digital repositories (e.g. Google Drive, Google Docs)	29	31%	26%	40%	18%	34%	20%	22%	0%
Media streaming	24	26%	26%	28%	18%	26%	20%	33%	0%
VLE platform – supporting the delivery of open online courses	16	17%	18%	21%	0%	18%	0%	11%	50%
Learning analytics	14	15%	8%	26%	0%	14%	40%	11%	0%
No outsourced provision	16	17%	21%	9%	36%	17%	20%	22%	0%

The Virtual Learning Environment

(or, elsewhere in the world, the Learning Management System (LMS))

Examples: Canvas, Blackboard (various flavours), Moodle

What it does: Provides a central point for students to access electronic resources linked to a particular module or course.

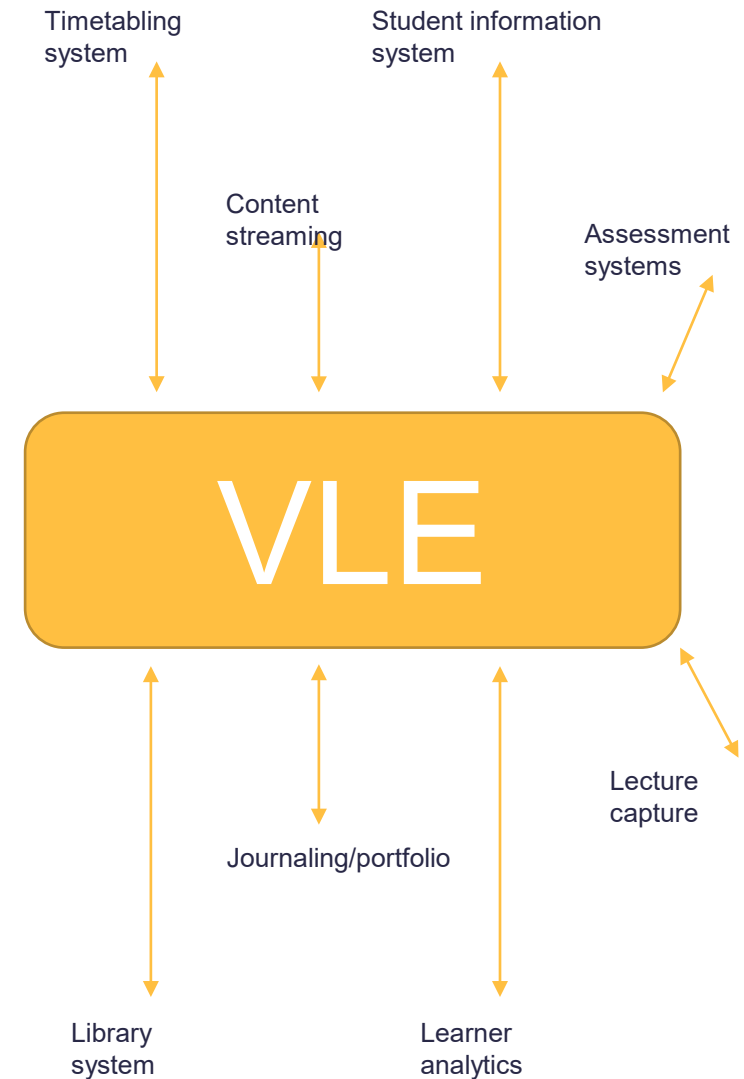
May also include

timetabling information (formal and informal) and resources

	2020	2018	2016	2014	2012	2010
Moodle	59%	55%	53%	62%	58%	55%
Blackboard Learn	32%	43%	46%	49%	38%	9%
FutureLearn	27%	30%	24%	5%	-	-
Canvas (by Instructure)	22%	16%	7%	2%	-	-
SharePoint	10%	6%	5%	12%	6%	13%

Table 3.2a (i): VLEs currently used – top five (longitudinal)

UCISA TEL survey 2020



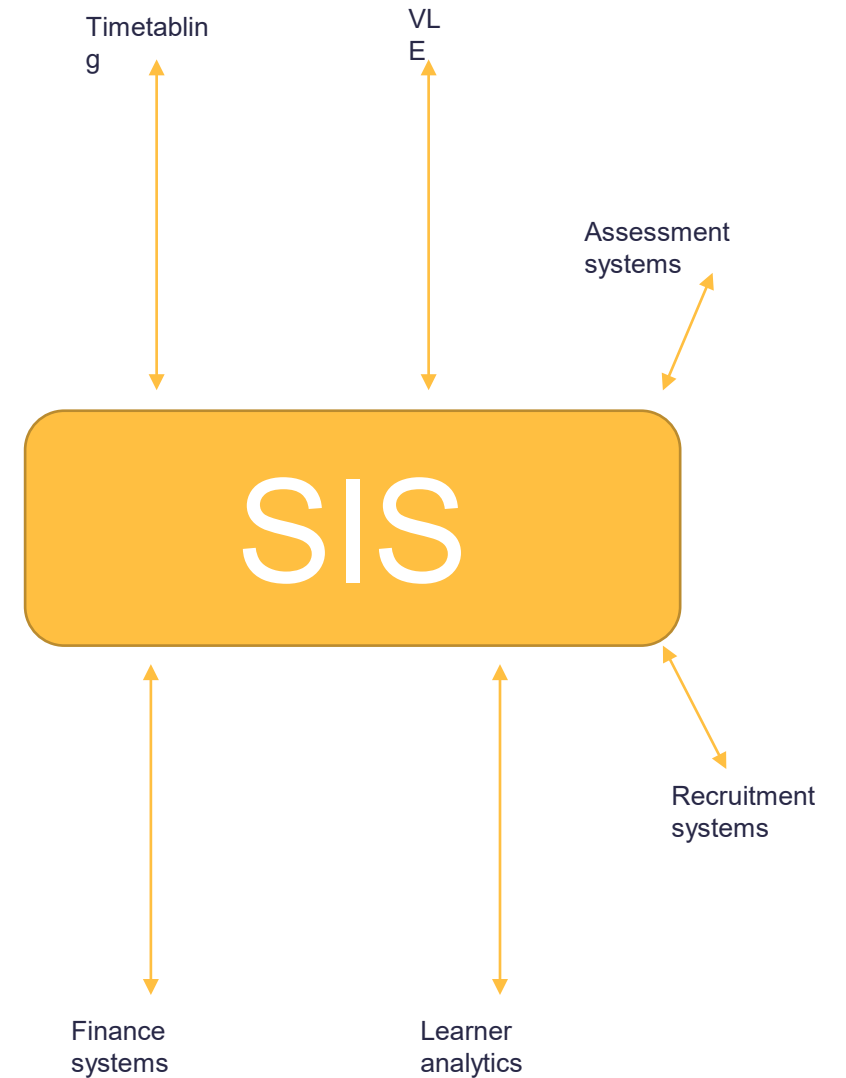
Student information systems

(student records system)

Examples: Ellucian, Populi, Tribal/SITS, Agresso

What it does: Single point of truth and identifier for student information.

May also include: interfaces to statutory and other external data returns (eg HESA, Office for Students, SLC). Some software also includes timetabling functionality.



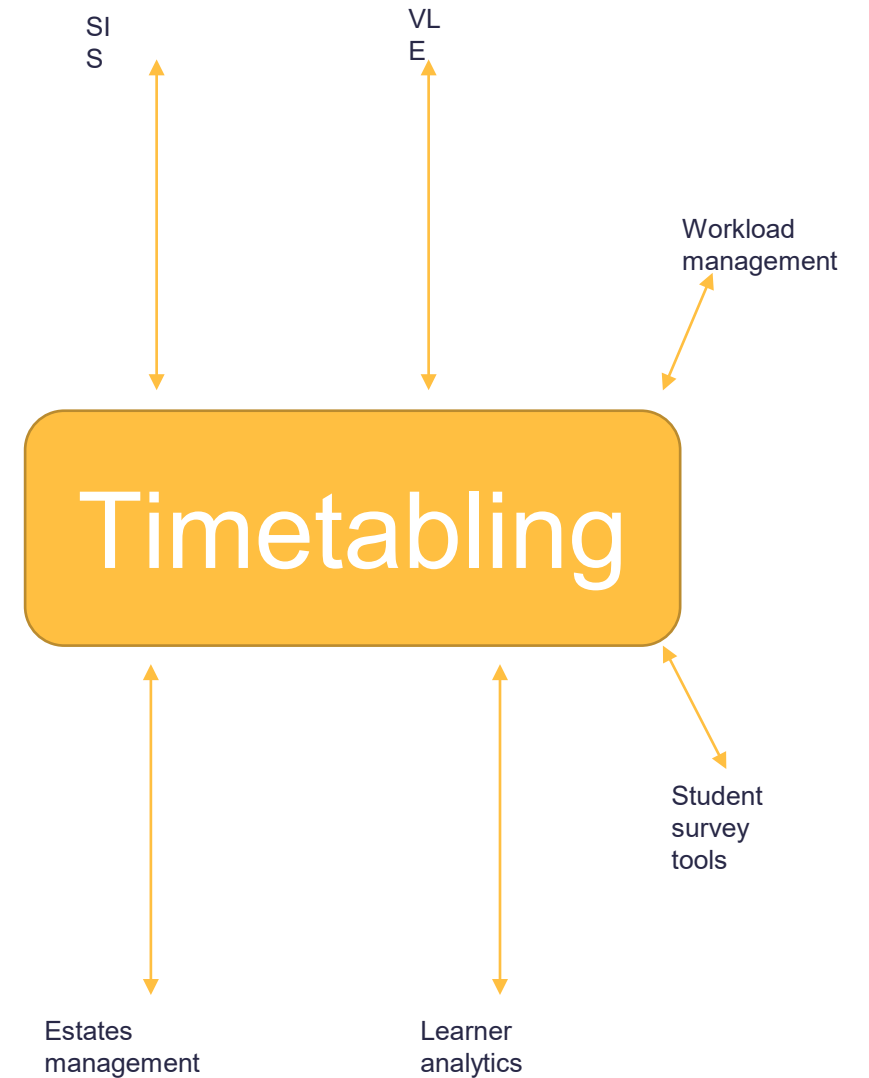
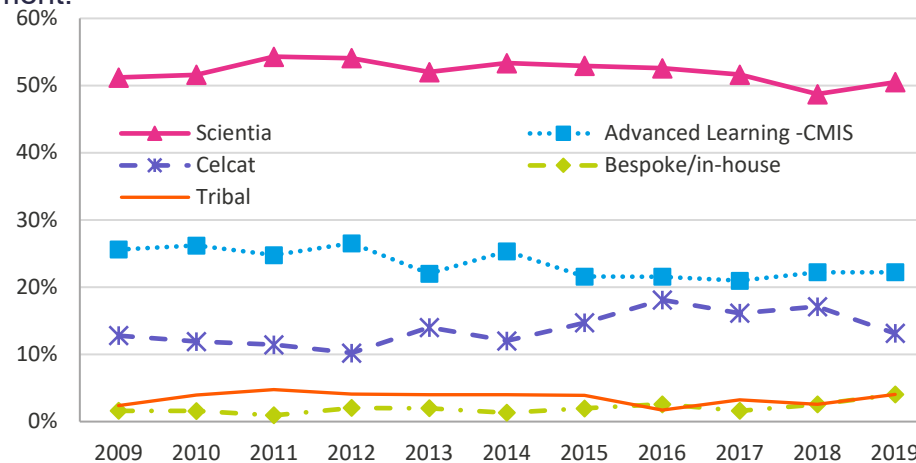
Timetabling

(or resource management more widely)

Examples: Scientia, Celcat, Advanced Learning/CMIS

What it does: Assign staff, students, and locations/resources to dates and times for interaction.

May also include: Estates management, resource management, workload management.



We could go on...

RESEARCH INFORMATION MANAGEMENT | REPOSITORY | HUMAN RESOURCES | READING LIST | CONTENT AGGREGATOR | OFFICE SUITES | EMAIL | ASSESSMENT PLATFORM | PLAGIARISM DETECTION | PAYROLL | WORKLOAD MANAGEMENT | DOCUMENT STORAGE AND RETRIEVAL | SOCIAL MEDIA | INTRANET | ESTATES MANAGEMENT | PROCUREMENT | POWER MANAGEMENT | CUSTOMER RECORDS MANAGEMENT | LECTURE CAPTURE | DATA VISUALISATION | SIMULATION AND CONTROL | PAYMENT SYSTEMS | SECURITY AND ACCESS CONTROL | RECRUITMENT | MODELLING AND FORECASTING



BRING YOUR OWN
TECHNOLOGY

Eduroam

...and Janet

EDUROAM is an international collaboration initially led by the Geant Association (and partially funded by Horizon 2020). It allows students and staff in participating education systems to access networks all over the world (10,000+ hotspots, 100 countries, now even beyond higher education).

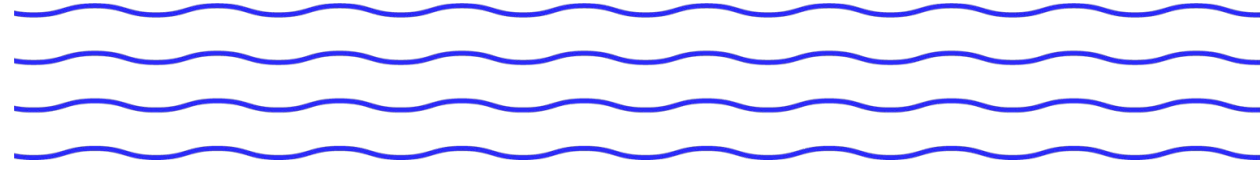
Designed to allow for collaboration. Often exists alongside standard wireless networks aimed at students and staff.

A defined set of standards that may or may not be correctly implemented.

Janet is the UK's research and education network, managed by Jisc. Providers subscribe to Janet via Jisc, which provides connectivity and related services.



Left to your own device



STAFF

Staff are often provided with equipment but prefer to use their own. Compatibility with university systems can be variable – and support is often needed.

STUDENTS

Most students will access the internet via their own device. For this reason student facing systems need to work seamlessly on multiple devices and platforms.

VISITORS

Some providers make resources available to local residents. Others will be keen to show prospective students or commercial collaborators a useful experiences

EMERGENCIES

The sectors resilience was tested during the Covid-19 pandemic. Much use was made of the devices and connections provided by students and staff, which presented a range of challenges.

Thank

you

Questions and
comments?

WONKHE