
Keeping Pace in Higher Education

Simon Collyer

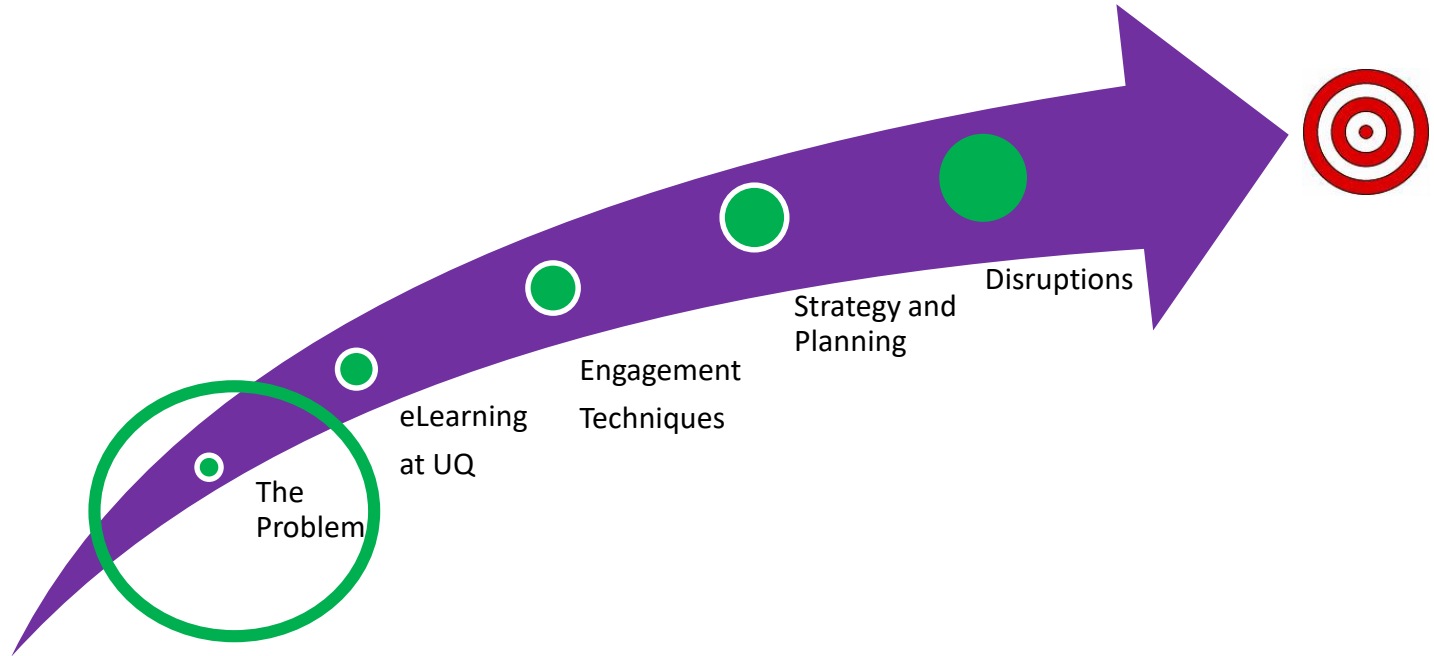




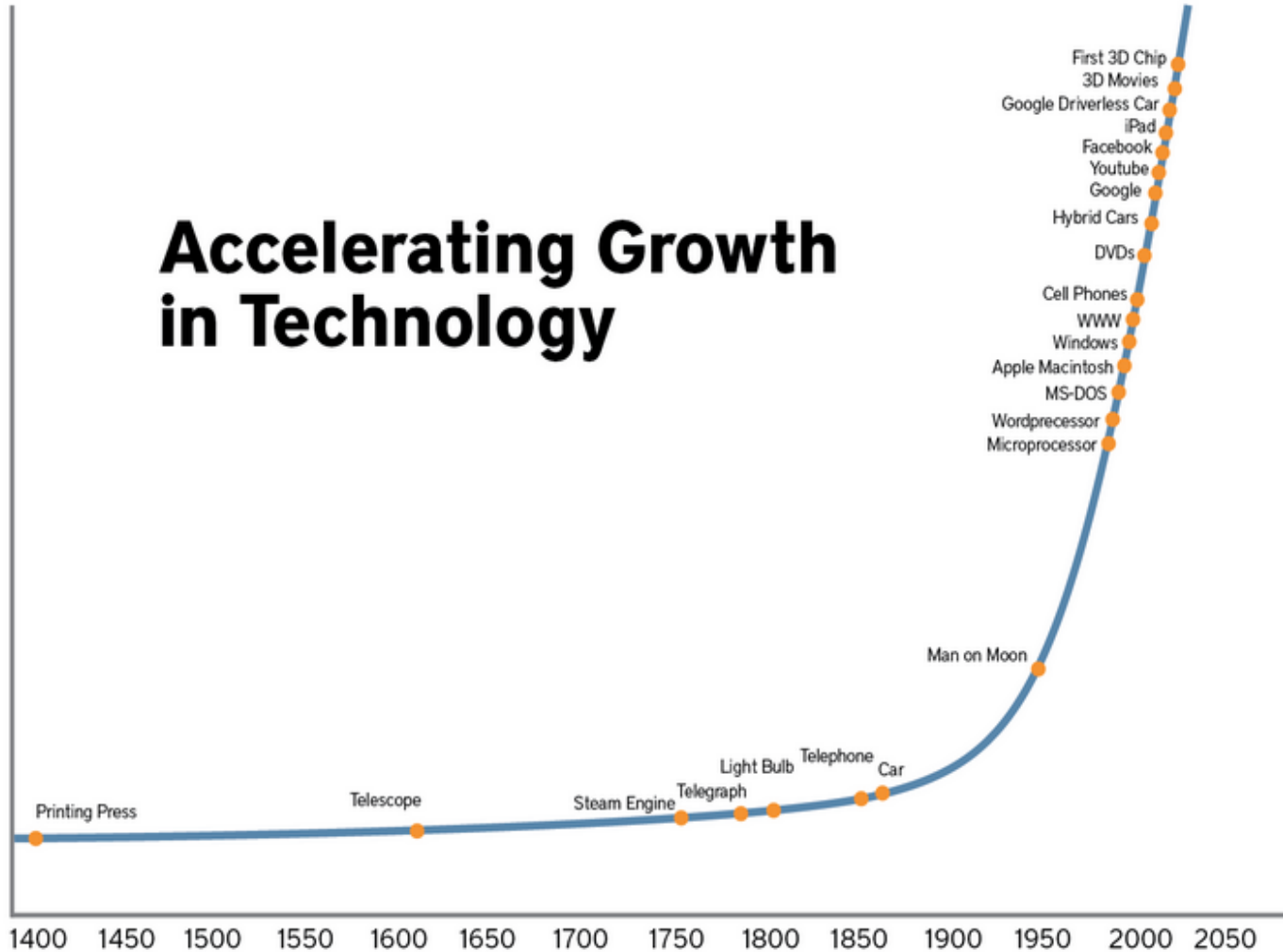
Brisbane



Talk outline...



Accelerating Growth in Technology



90% in
last 55
years



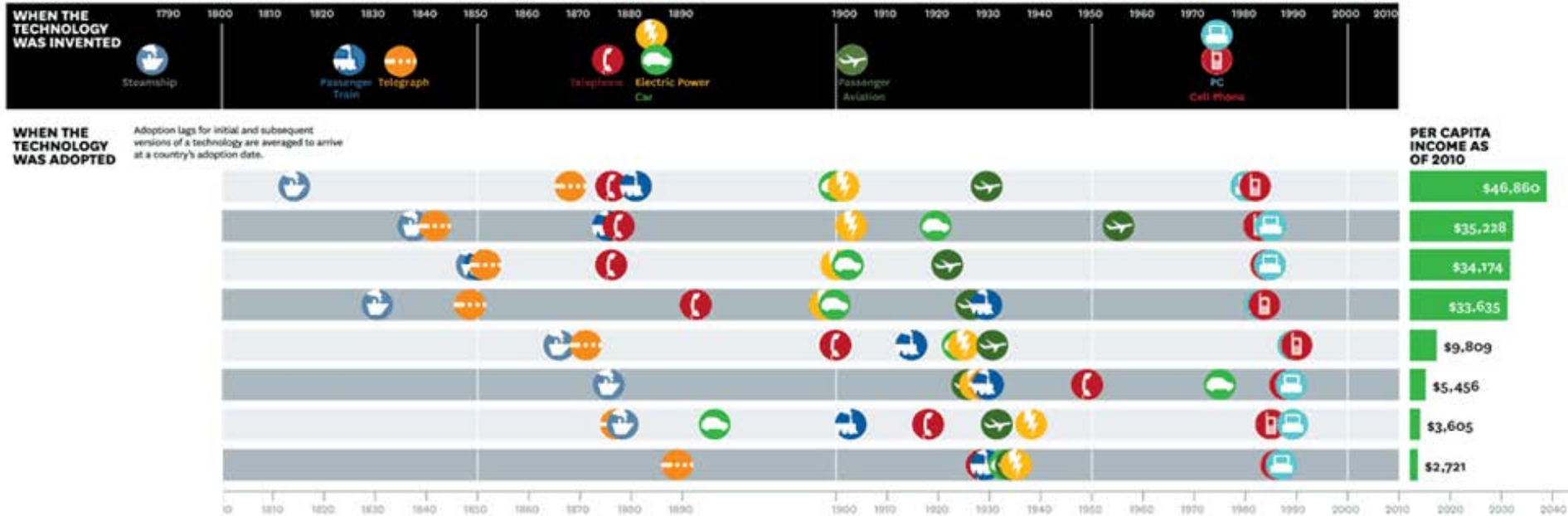
Technology

**Higher
Education**



Create change

Technology adoption rates affect productivity



Comin, D., & Mestieri, M. (2010). The Intensive Margin of Technology Adoption *HBS Working Paper 11-026*

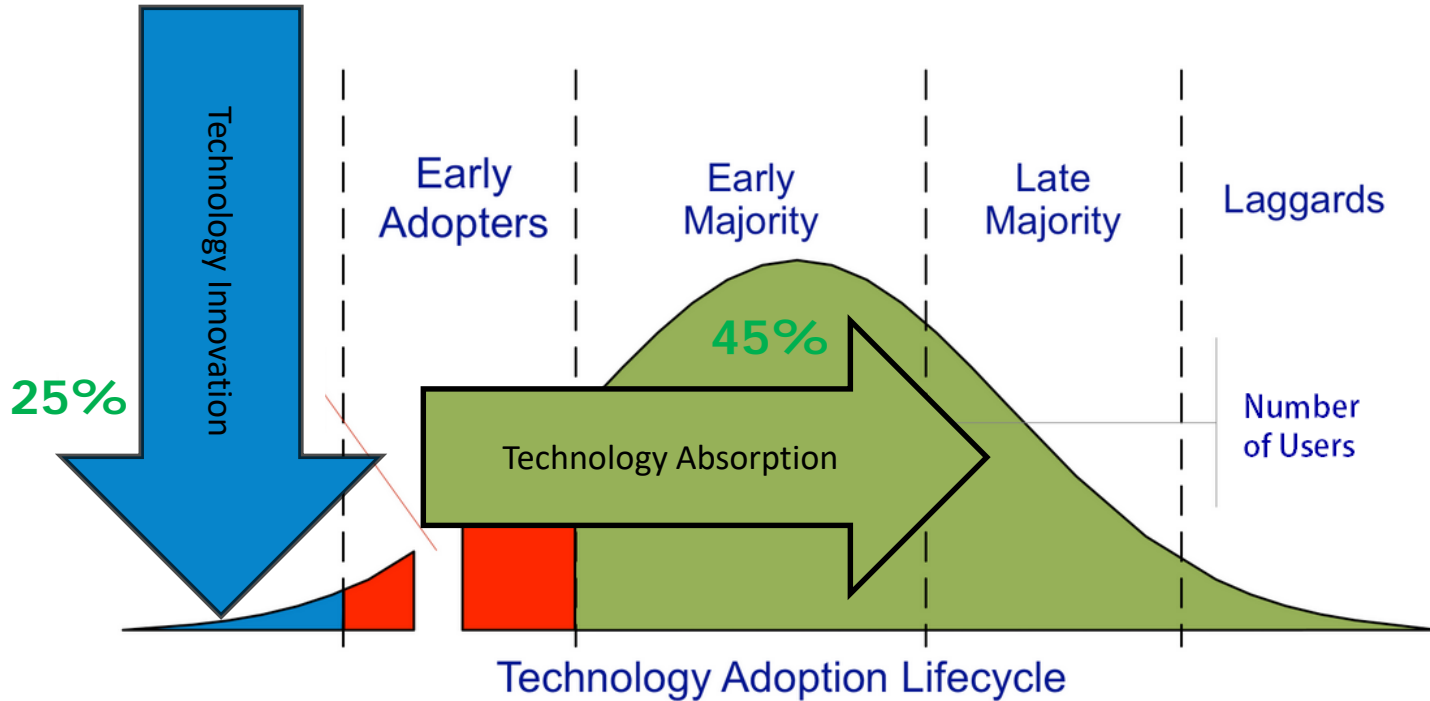
Comin, D., & Hobbijn, B. (2012). How Early Adoption Has Increased Wealth—Until Now. *Harvard Business Review Magazine*..

Technology adoption rates account for 70% of the difference in national productivity



Create change

Both innovation and absorption are important

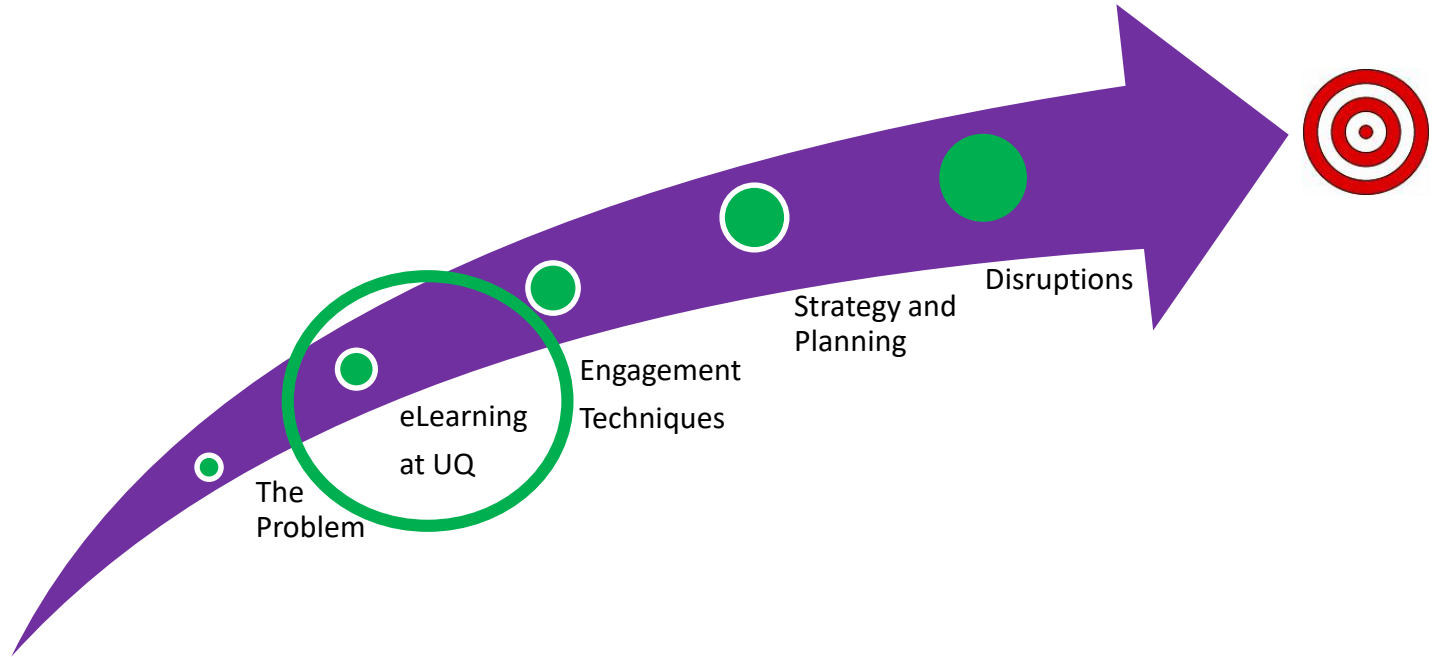


Adoption speed is important

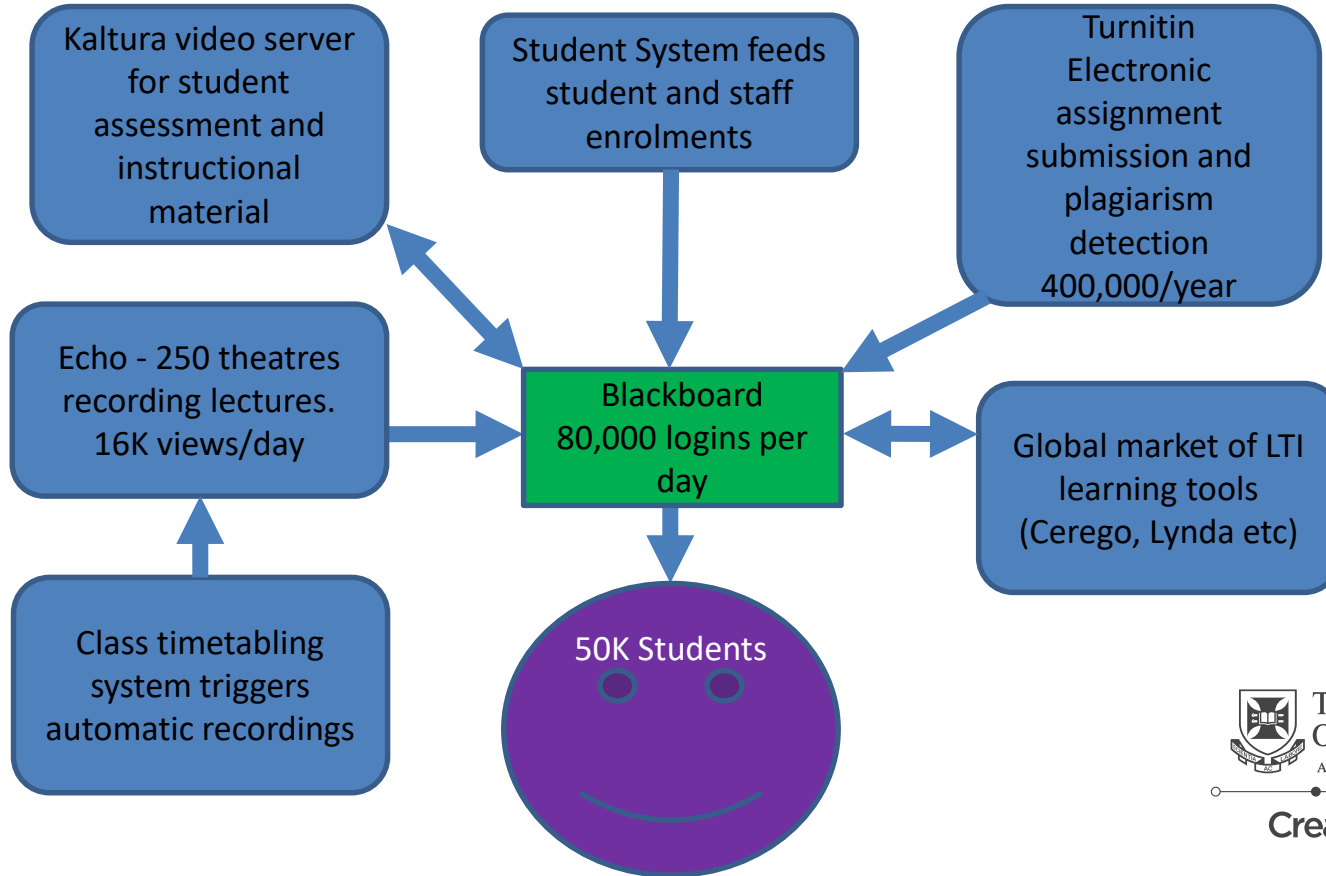


11 year Iridium satellite phone project
Overtaken by spread of terrestrial networks

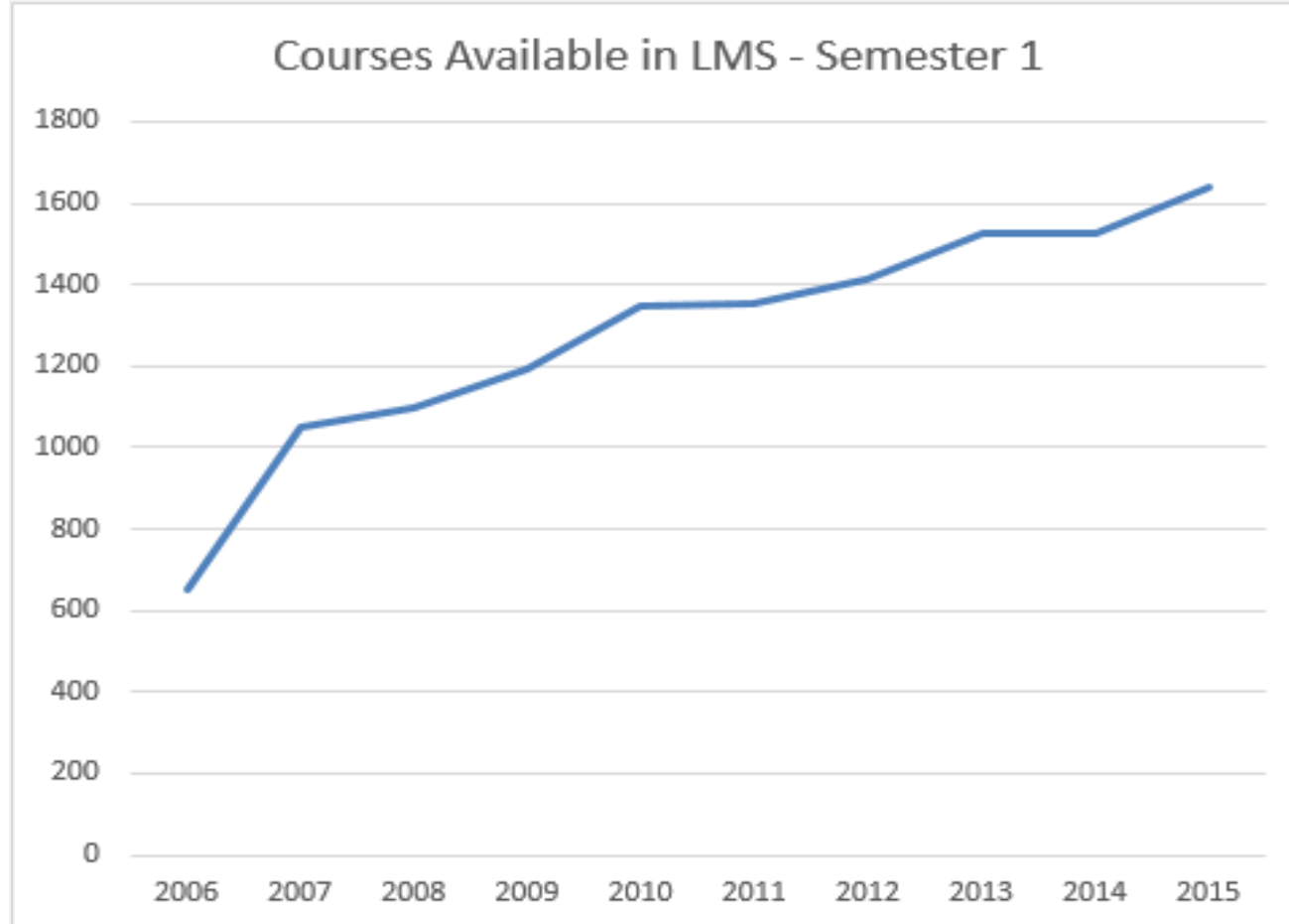
Talk outline...



The current environment at UQ...

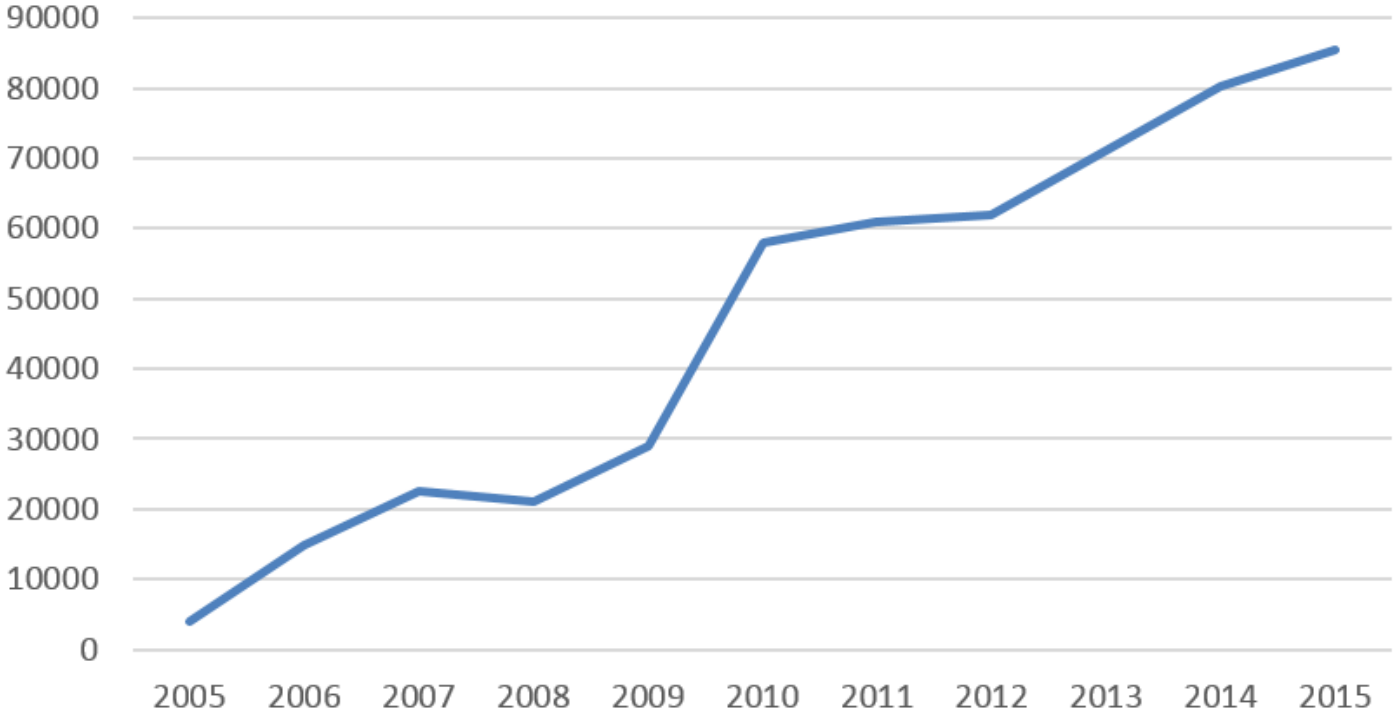


Now all UQ courses are on Blackboard

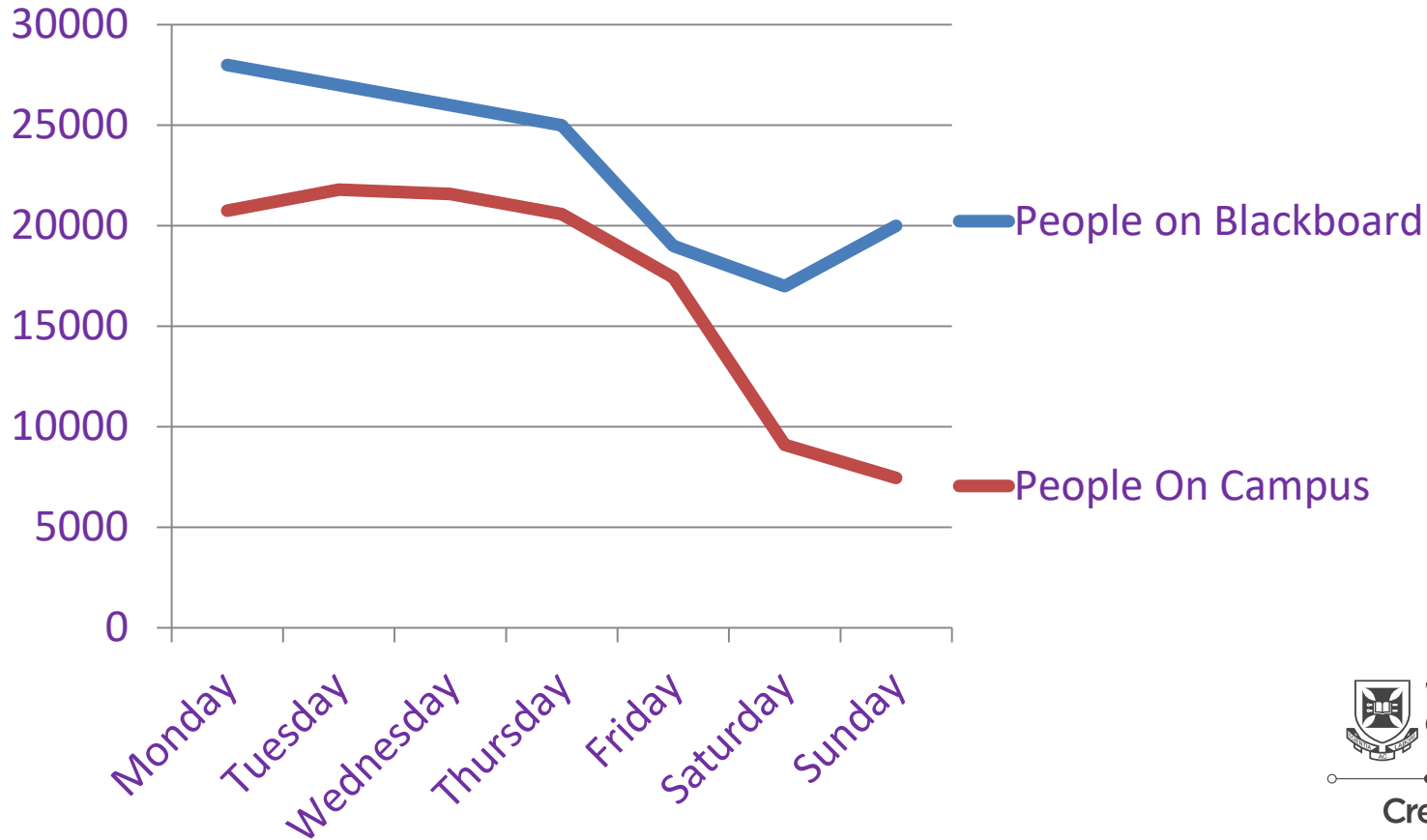


Blackboard currently attracts 90K logins/day from 50K students

Maximum LMS logins on a single day

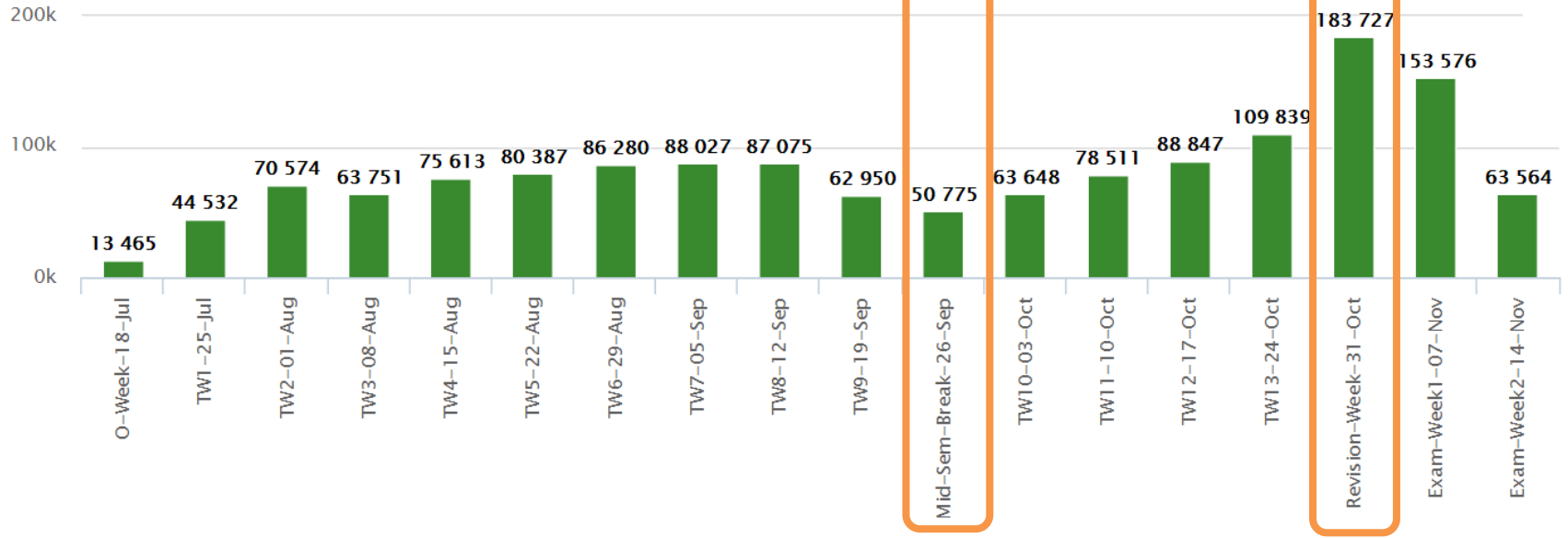


More students are on Blackboard than on our main campus



Students have grown to love lecture recordings

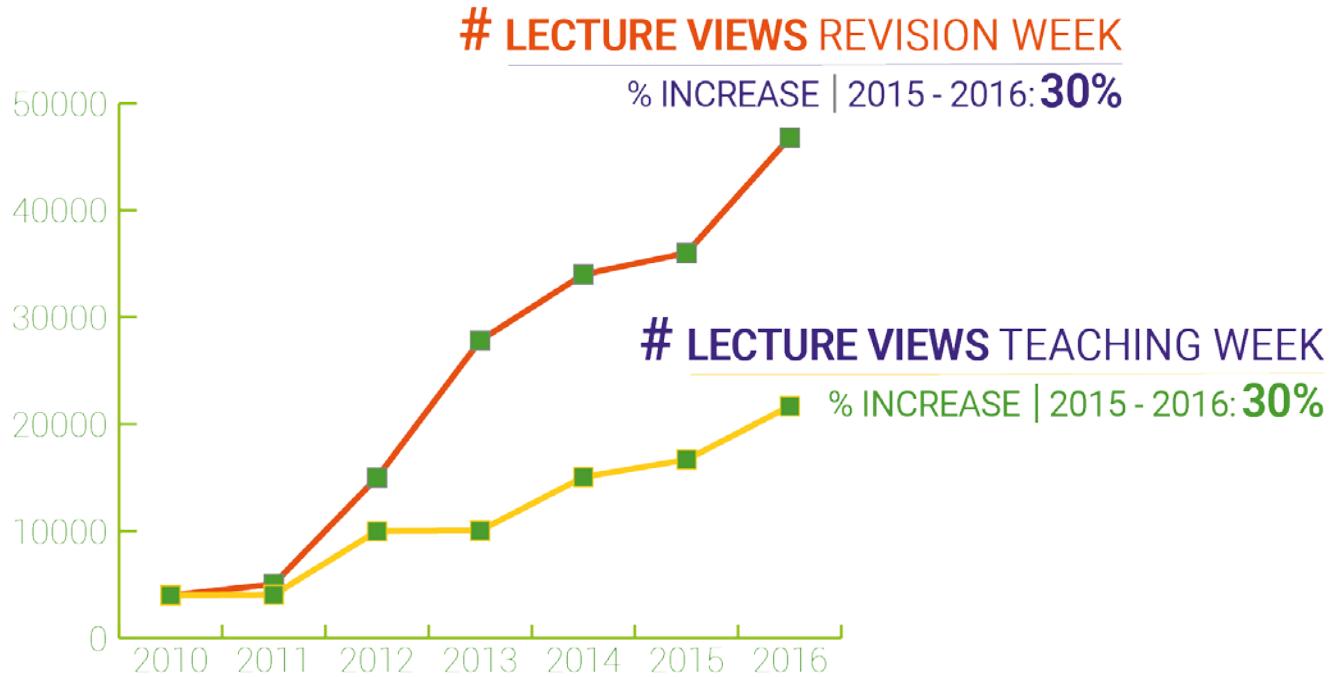
Echo360 Total Views per Week Semester 2 2016



Holiday week
(No lectures)

Students have grown to love recordings

MAXIMUM LECTURE VIEWS IN A SINGLE DAY



The old way....

Assignment Centre

Opening hours:

Room:

Mon-Fri 10am- 2pm

Assignment Pick-up

9am-11am

2pm-4pm

Weekday

ASSIGNMENT COLLECTION

MON 12:00pm – 2:00pm

THURS 12:30pm – 1:30pm

Assignment Drop-Off

- Assignment Box emptied at 12pm each weekday.
- Barcoded coversheets are scanned in by staff.
- If you have not received an email confirming receipt of your assignment by 5pm, please contact:

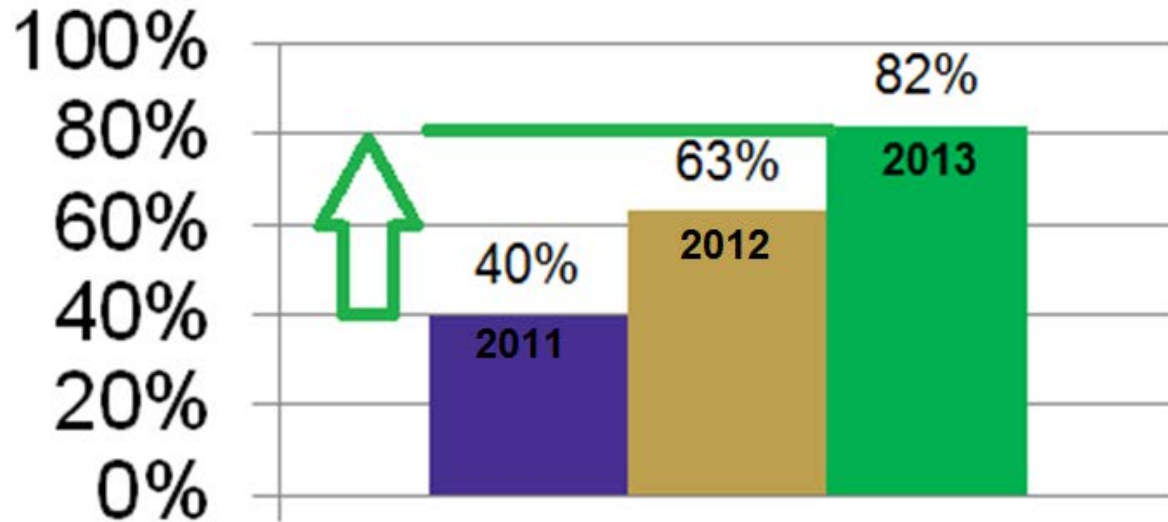
Please do not ask for your assignments outside the designated timeframes

Assignment Handling Office
Open Hours
1PM to 2PM
Monday to Friday

You must hand deliver your assignment with your student ID.

Grad Cert in High Education
Reports will be available for collection from the office on **Thurs 4 and Tues 9 Dec from 2 to 4pm**. You will need to **bring a staff or student card** for identification when you collect your report.

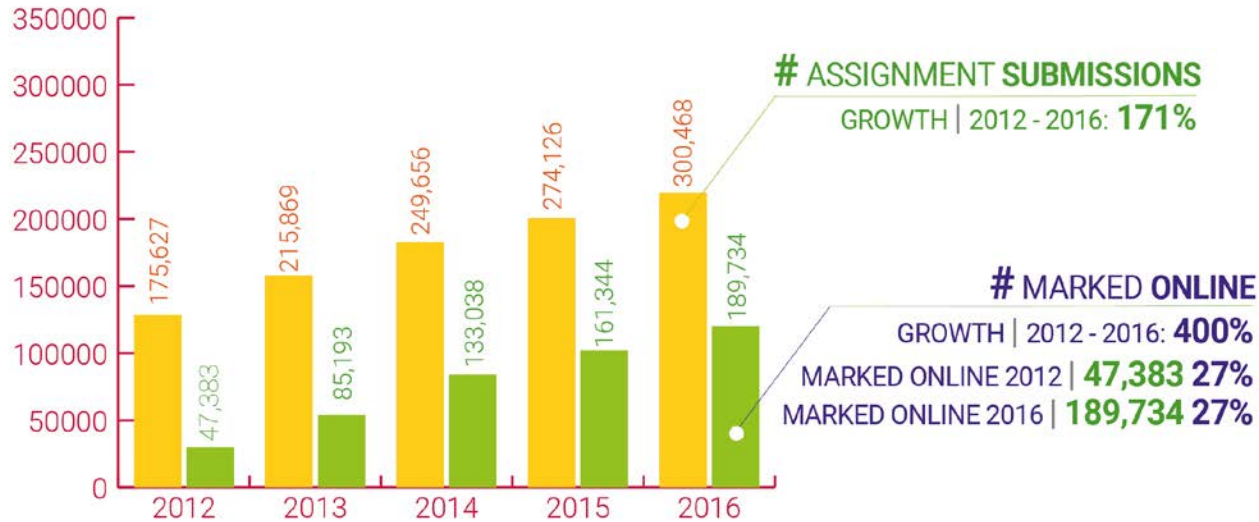
Growth in online assignment submission ..and automatic plagiarism checking



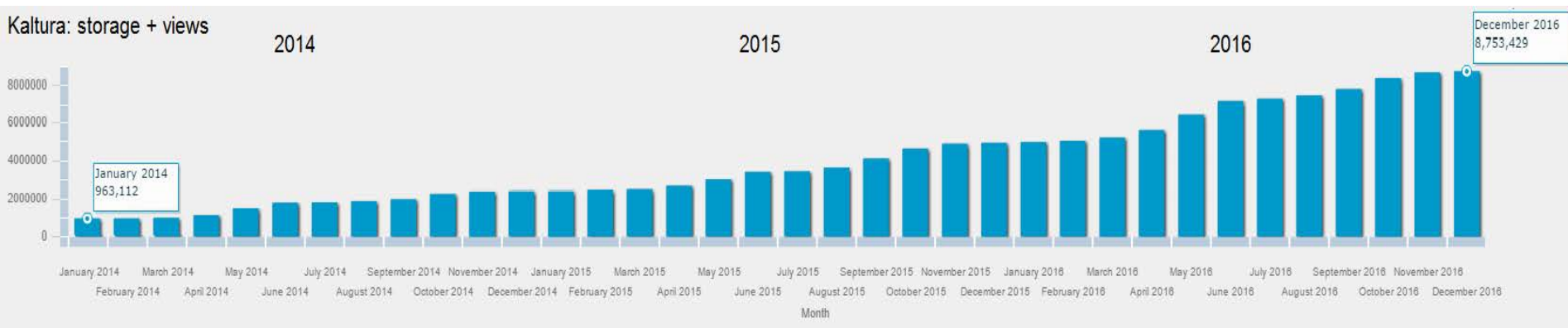
% courses with online
assignment submission

Examples of rapid change at UQ

TURNITIN 2012 - 2016 ASSIGNMENT SUBMISSIONS MARKED ONLINE



The transformation of student assessment using video assignments



Student video assignment use grew from 0 in 2013 to 284,517 views/year in 2016

Video assessment

Example student video...

Video assessment



Moving to the Cloud

We are expecting faster development in the 'cloud'.

Lecture capture in the cloud

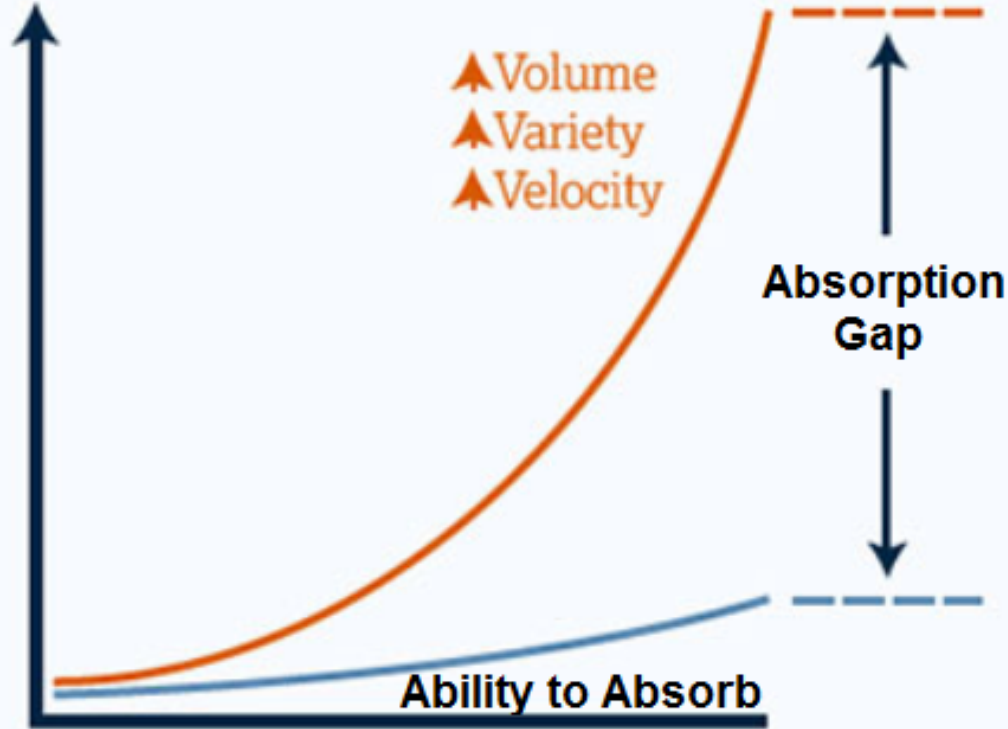
Echo Active Learning Platform (ALP) includes

- an audience question-response tool;
- an in-class discussion tool;
- a slide by slide note taking tool;
- a confusion alert button;
- an instructor report on engagement levels

The cloud hosted version also includes:

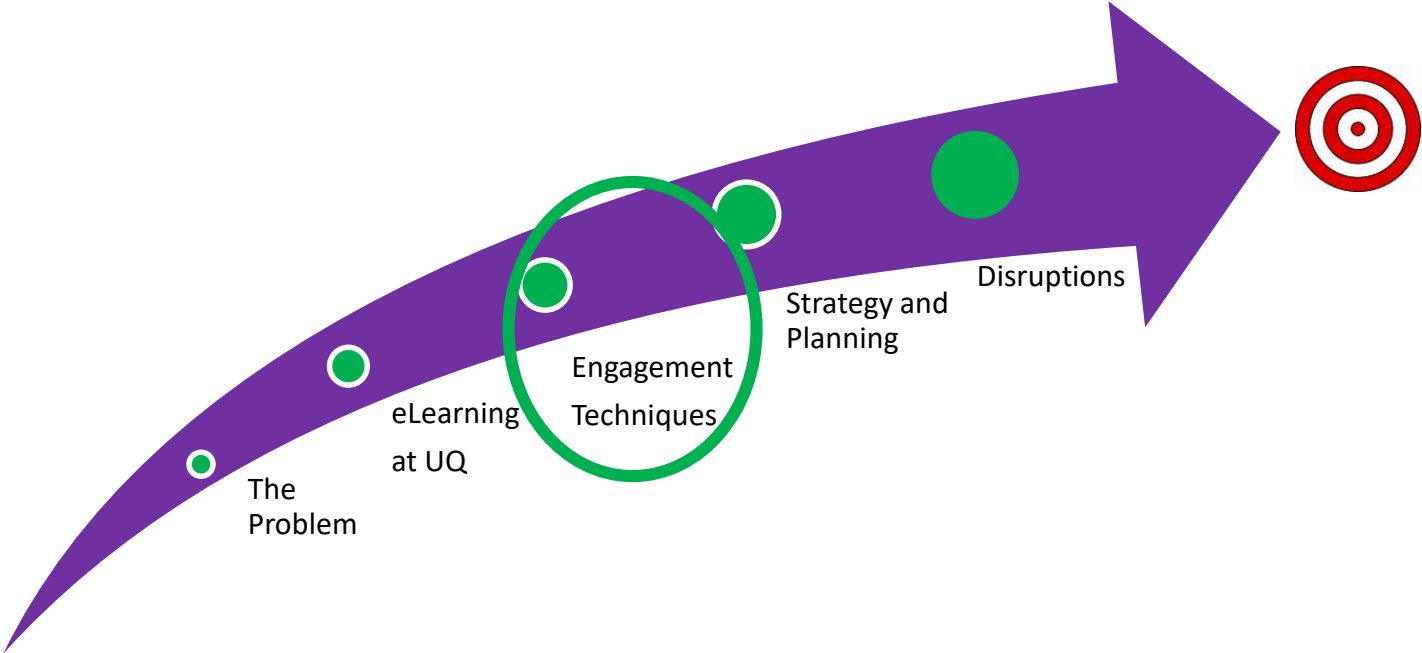
- faster bug fixes;
- more regular updates; and
- better performance during peak demand.

Technology Explosion



The Technology Absorption Gap

Talk outline...



The role of support teams

Build leadership confidence.

Use desire, not fear.

Build scalable services
based on broadly applicable proven solutions
(not “innovation”)

The role of leadership

Set Vision

Invest in support

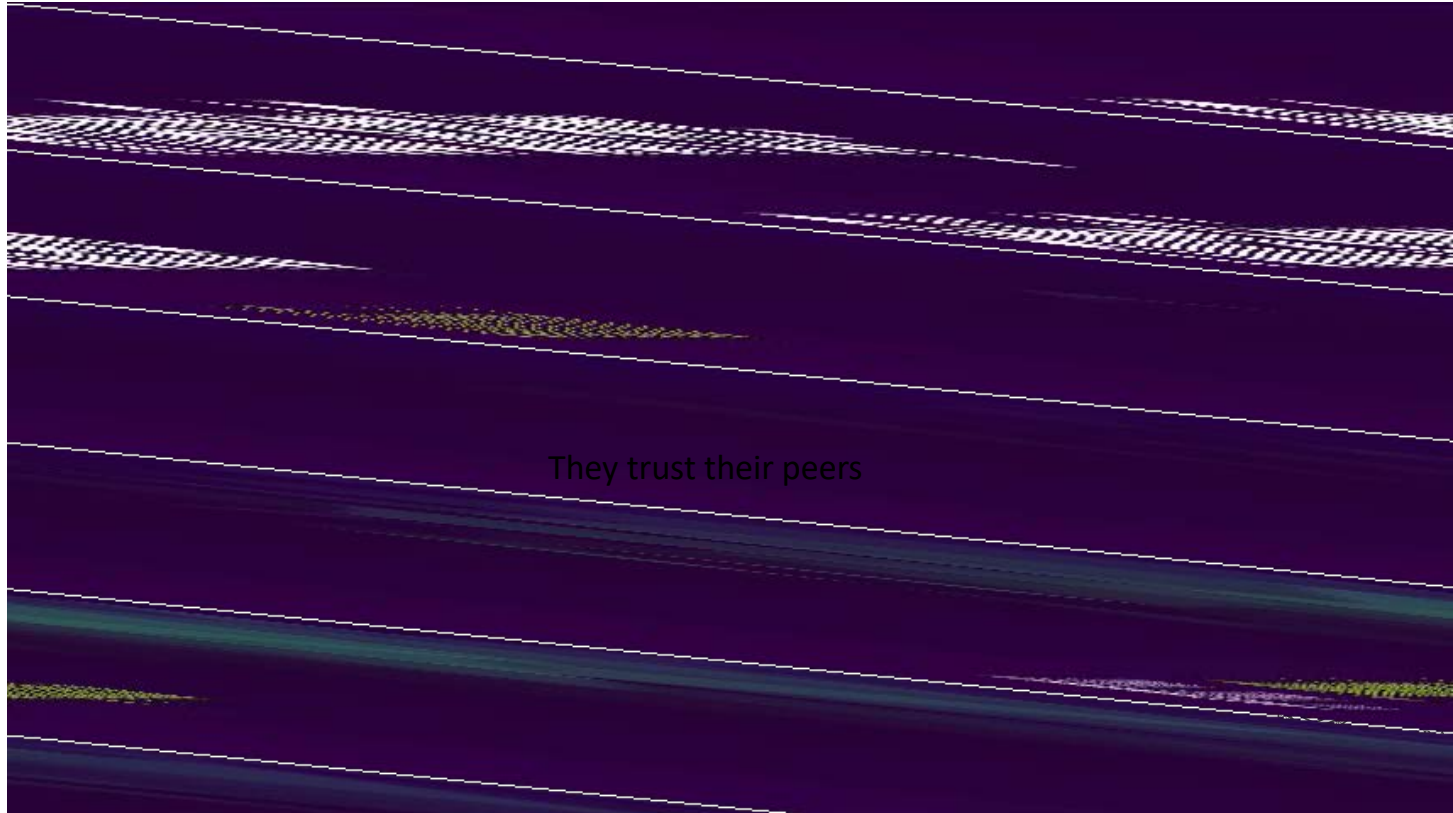
Create incentives

Ask for unit goals

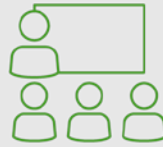
Peer Referencing

Video example...

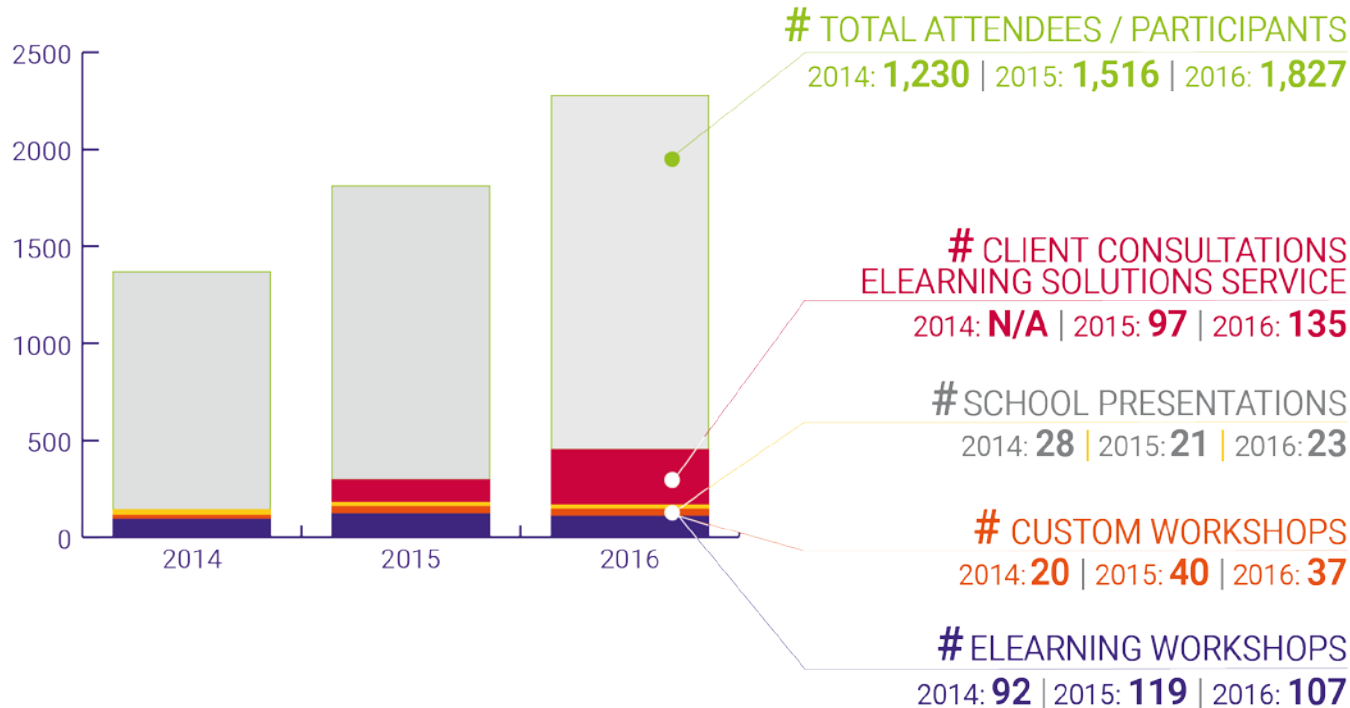
Peer Referencing



TRAINING



ELEARNING
2014 - 2016



Minimum Presence in Blackboard – Policy



Instructors are required to maintain a minimum level of online presence in Blackboard.



All courses required to have a Blackboard site consisting of

- the Announcements tool,
- a Course Profile link
- a Learning Resources folder (which includes lecture recordings),
- a Discussion Board, and
- a UQ Library link with course readings.

The best practice guidelines for course design guidelines

Practice	Advantages to Teachers	Advantages to Students
Welcome message available in Learn.UQ course	Academics appear professional & prepared	Students assured of the what they are doing in the course & how the online component works
Communication expectations clearly explained in Learn.UQ course	Communication with students is better managed Fewer emails Better student-to-student collaboration	Students understand how to communicate with academics
Contact information available in Learn.UQ course (with who to contact when)	Academics get fewer emails from students. Set aside time - students do not “drop in” on you.	Students can easily find the appropriate support
Learning resources are organised for students to find materials	Students spend more time working than looking for resources Fewer emails re “where is”	Students find resources when needed.
Class catch-up resources available within a week	Fewer personal requests for support to catch-up classes	Students can keep up with a course if they miss a class through illness or other responsibilities
Weekly course updates	Single announcement to class per week which students are more likely to read	Single point of reference – more manageable email
Online submission of assignments	Easier administration Time-stamped submissions Verifiable original document submitted	Submit anywhere, anytime Lower production costs
Online marking of assignments	Less paper to manage Reuse of comments Easier for your students to access feedback	Receive results anywhere Feedback available without picking up from campus
Students receive collective or individual feedback by the census date	Retention improved Set expectations of workload & course standards	Realistic expectations of the course Raise standard of work or un-enroll without financial penalty
Course activation 1 week before first teaching activity	Fewer concerned emails from students	Clarity about course requirements & activities Assurance that they are enrolled properly & have the information they need



1. Descriptive statistics I

[ECON1310] Quantitative Economic & Business Analysis A (St Lucia)
 Semester 1, 2017
 (ECON1310S_6720_20270)

Course overview

1. Descriptive statistics I

Library Links

1. Descriptive statistics I

[Overview](#) |
 [What do you know](#) |
 [Live learning](#) |
 [Core reading](#) |
 [Your private tutor](#) |
 [Tutorial activities](#) |
 [Consult forum](#) |
 [Assessment](#)



OVERVIEW

Hi, I'm Carl Sherwood

Welcome to Descriptive Statistics I

At the end of this topic you should be able to:

- Define basic statistical concepts
- Discuss the different categories of data
- Outline the difference between descriptive statistics and inferential statistics
- Discuss several sampling methods and associated errors

2 What do you know?

See what you already know about this topic



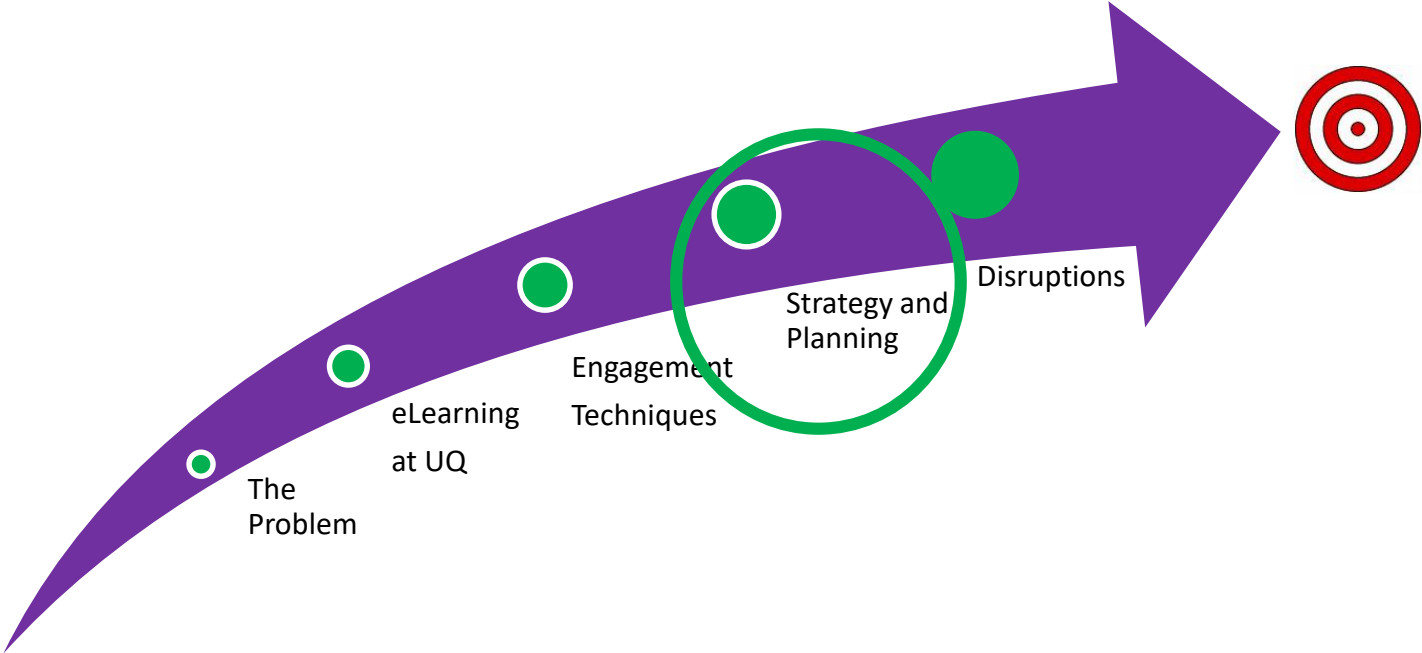
3 Live learning

View live lecture recordings and supporting videos

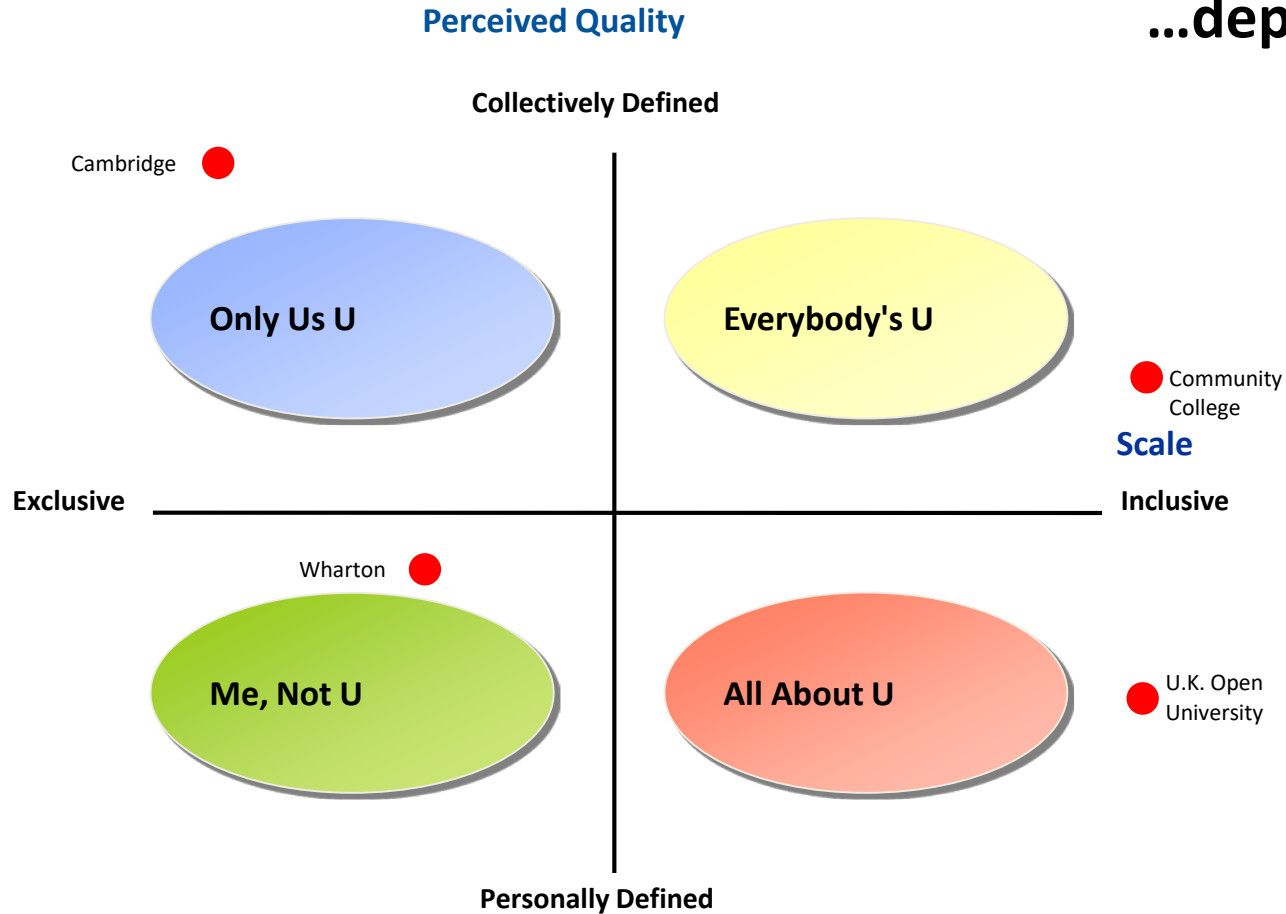
4 Core reading

Your core reading for this topic

Talk outline...



But which technology to Adopt? ...depends on type...

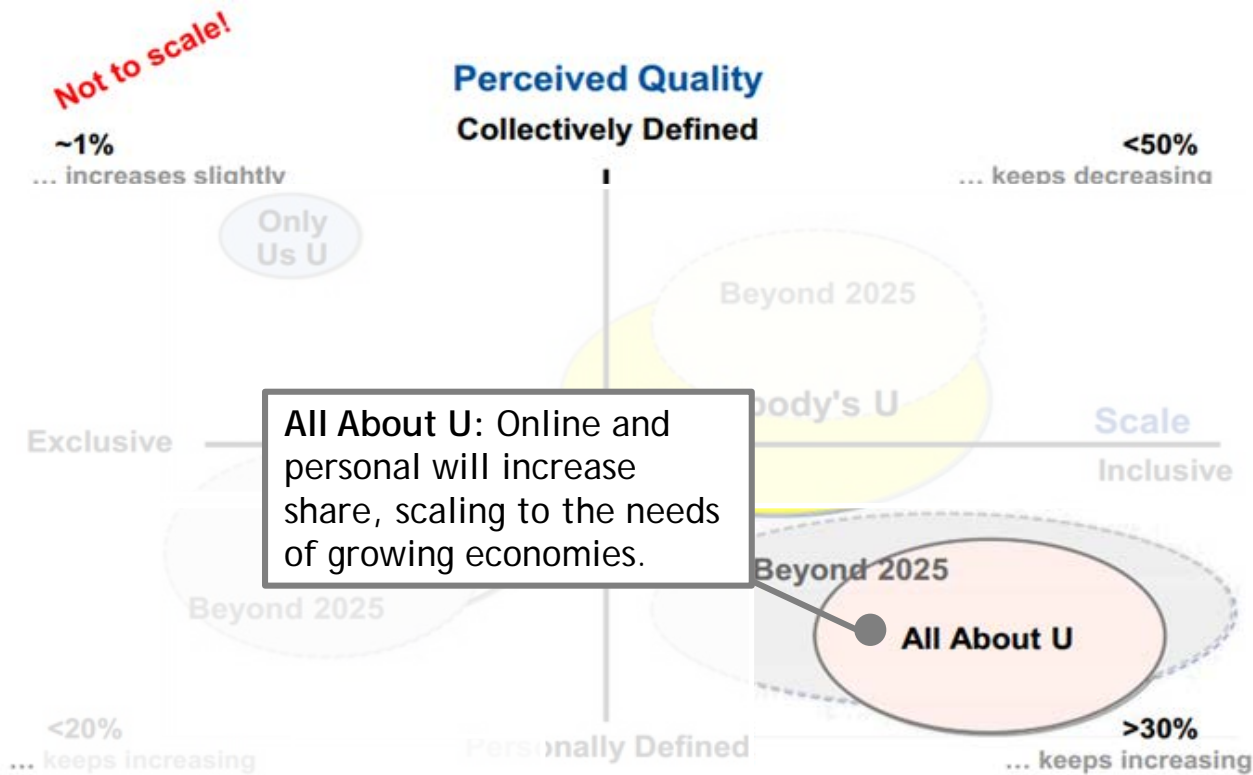


Source: "Four 'Business Model' Scenarios for Higher Education: An Introduction to Strategic Planning Through Storytelling" (G00167364)



Create change

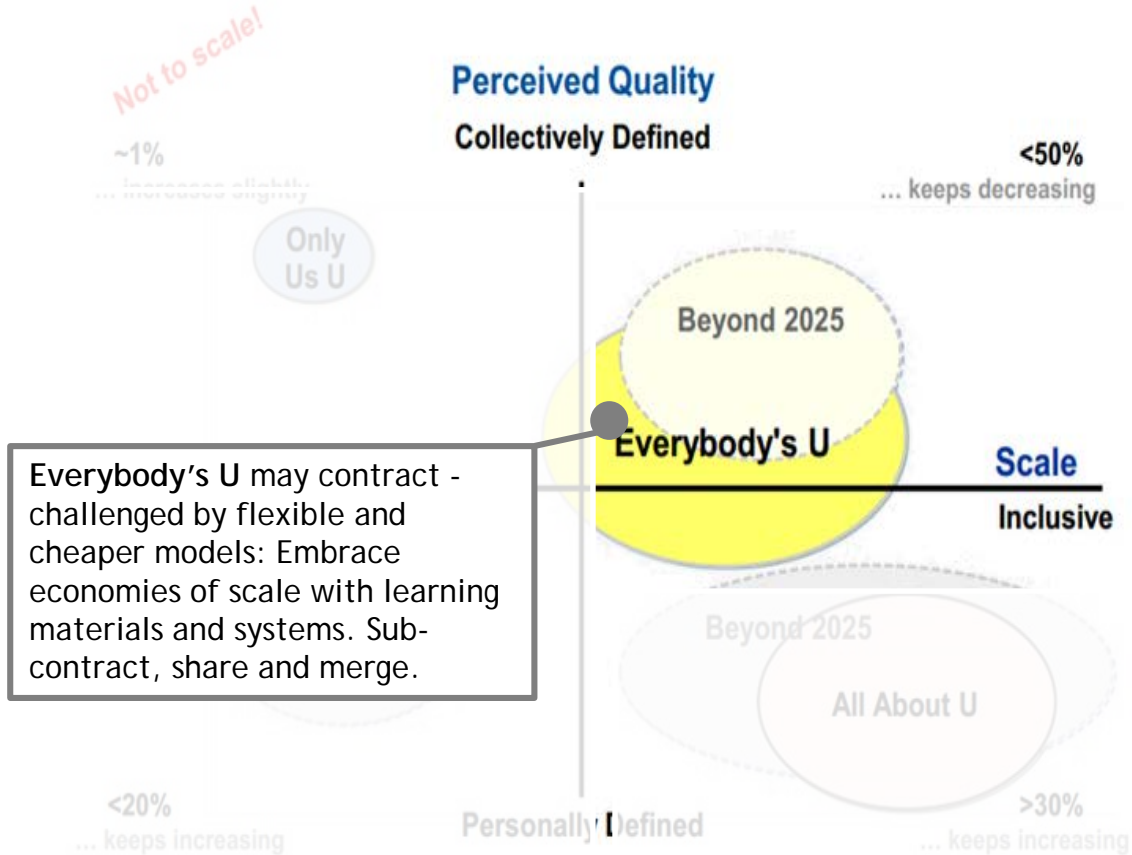
Models



Source: Gartner (April 2014)

Source: "Four 'Business Model' Scenarios for Higher Education: An Introduction to Strategic Planning Through Storytelling" (G00167364)

Models



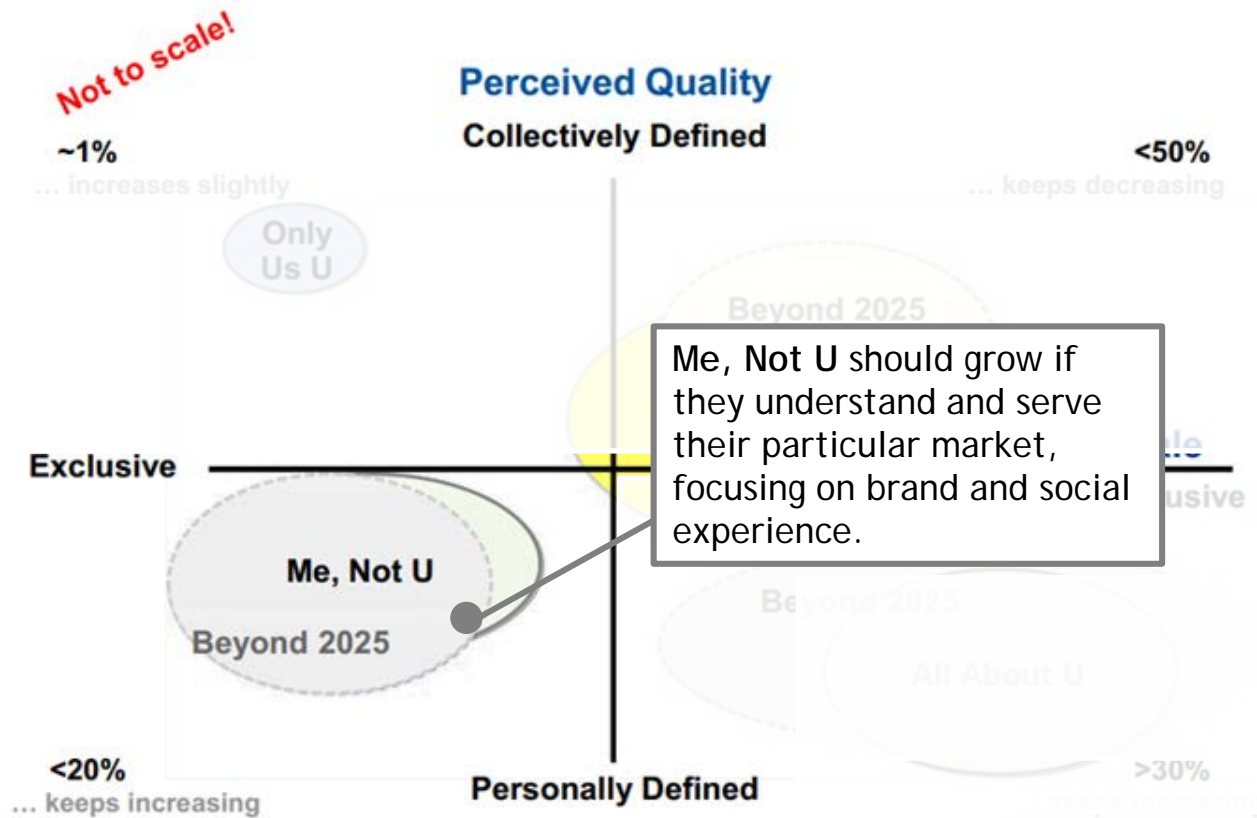
Everybody's U may contract - challenged by flexible and cheaper models: Embrace economies of scale with learning materials and systems. Sub-contract, share and merge.

Source: "Four 'Business Model' Scenarios for Higher Education: An Introduction to Strategic Planning Through Storytelling" (G00167364)



Create change

Models



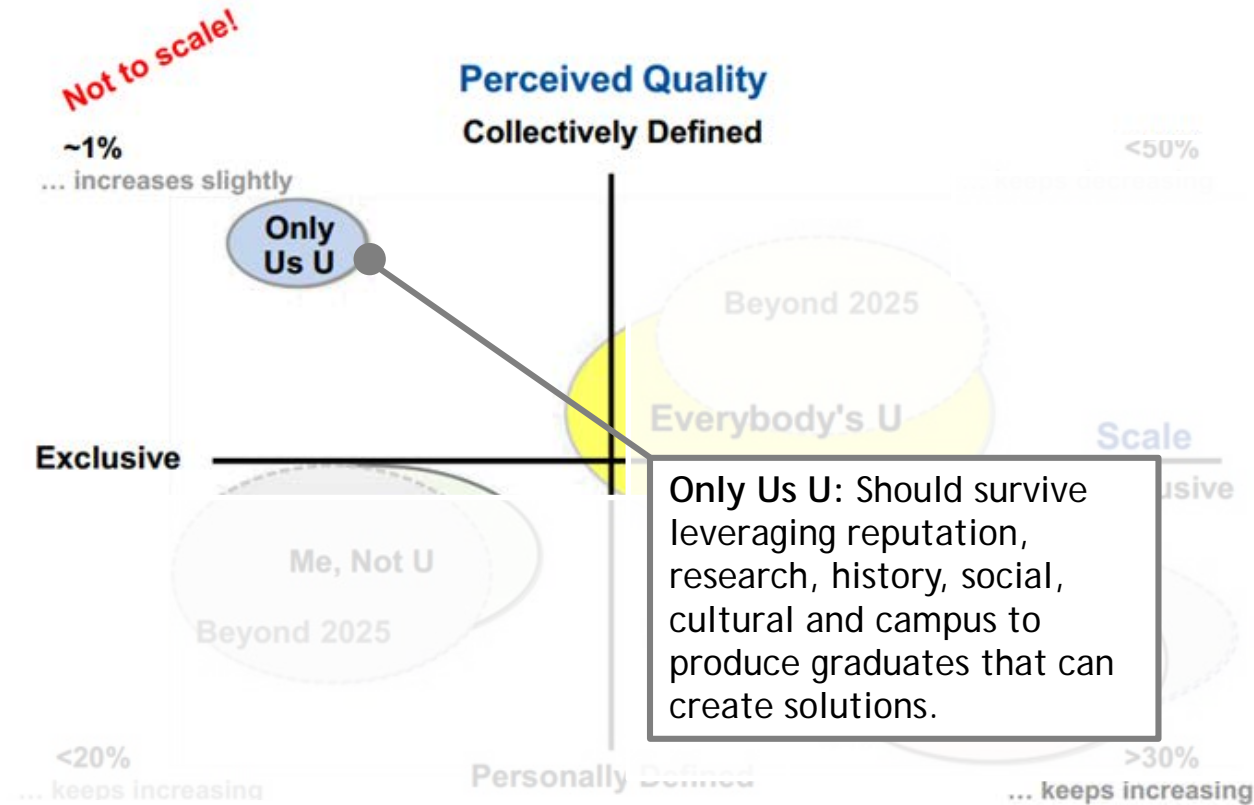
Source: Gartner (April 2014)

Source: "Four 'Business Model' Scenarios for Higher Education: An Introduction to Strategic Planning Through Storytelling" (G00167364)



Create change

Models



Source: Gartner (April 2014)

Source: "Four 'Business Model' Scenarios for Higher Education: An Introduction to Strategic Planning Through Storytelling" (G00167364)

UQ strategy – The early days

Flexible Learning

Blended Learning

UQ Strategy – Now

Active Learning – Group work

High value campus based experience...

Cultural, social, sporting, learning experiences.

More of a residential university.

More industry and business on campus for collaboration and student opportunities.

Move from semesters to trimesters, 365/day study year.

Higher order learning – knowledge creation
Translating research prowess into graduate attributes

Learning Spaces



BEFORE...



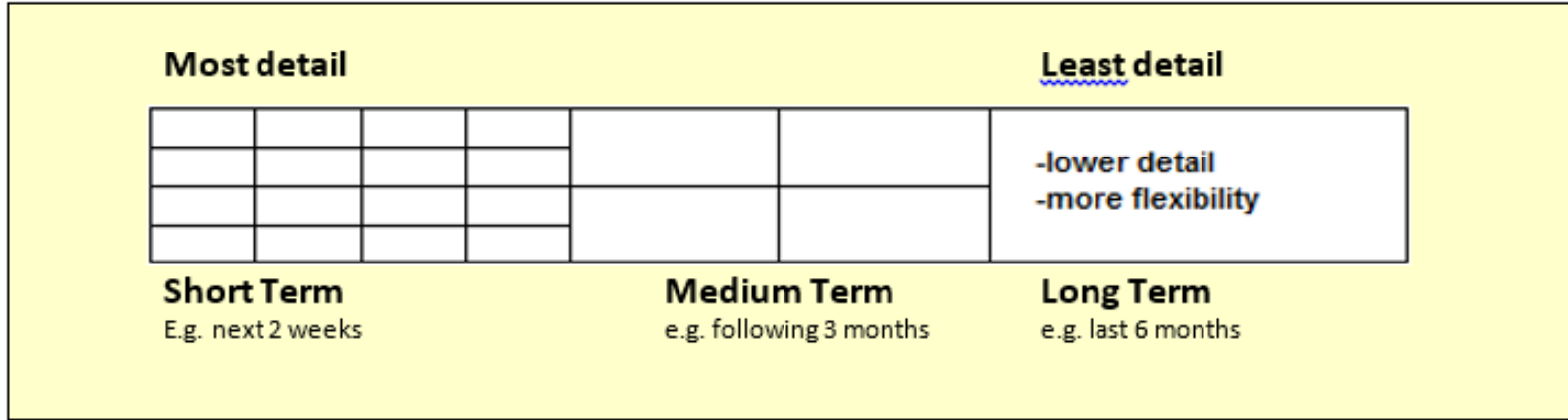
AFTER...

Planning Techniques

Three dynamic management techniques from research

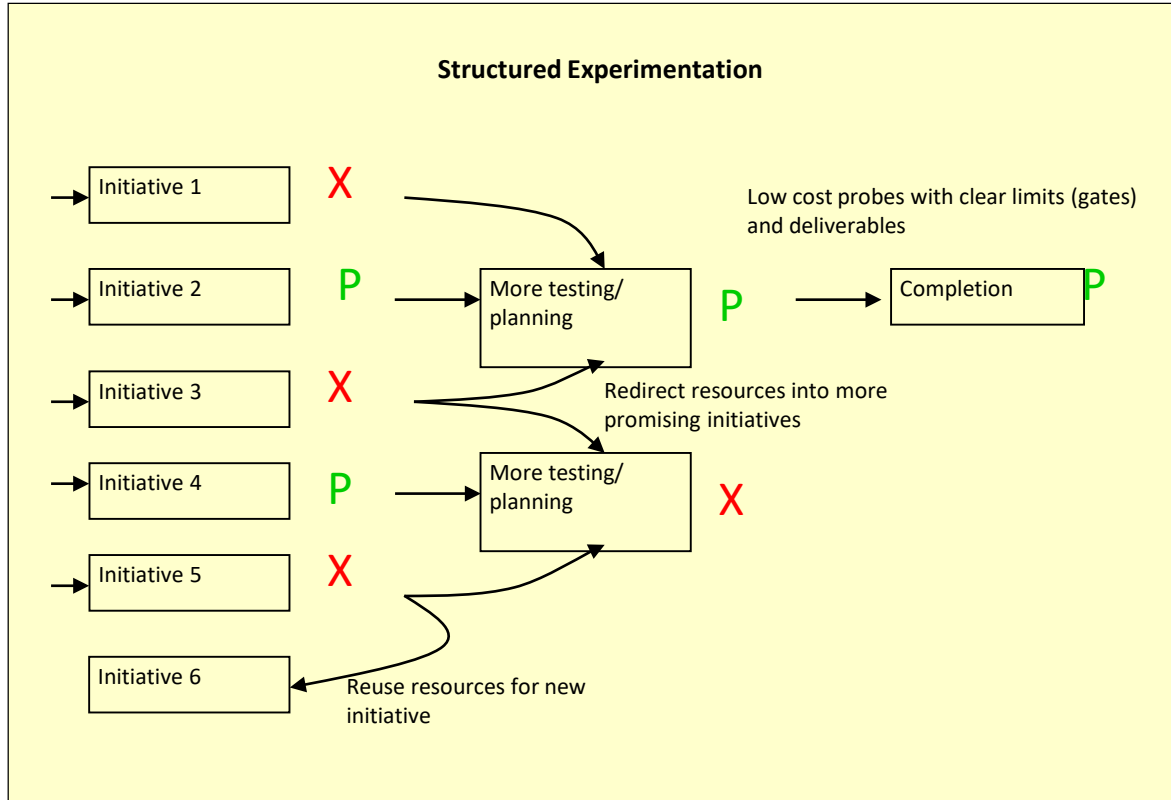
<http://www.dynamicmanagement.info/>

1. Emergent Planning



- a) a clearly articulated vision;
- b) delivery in stages;
- c) smallest possible stage 1;
- d) each stage has a decision gate;
- e) less detail for future stages.

2. Competing Experiments



“We have got at the moment about 21 film scripts in development, and we are aiming to make two or three a year.”



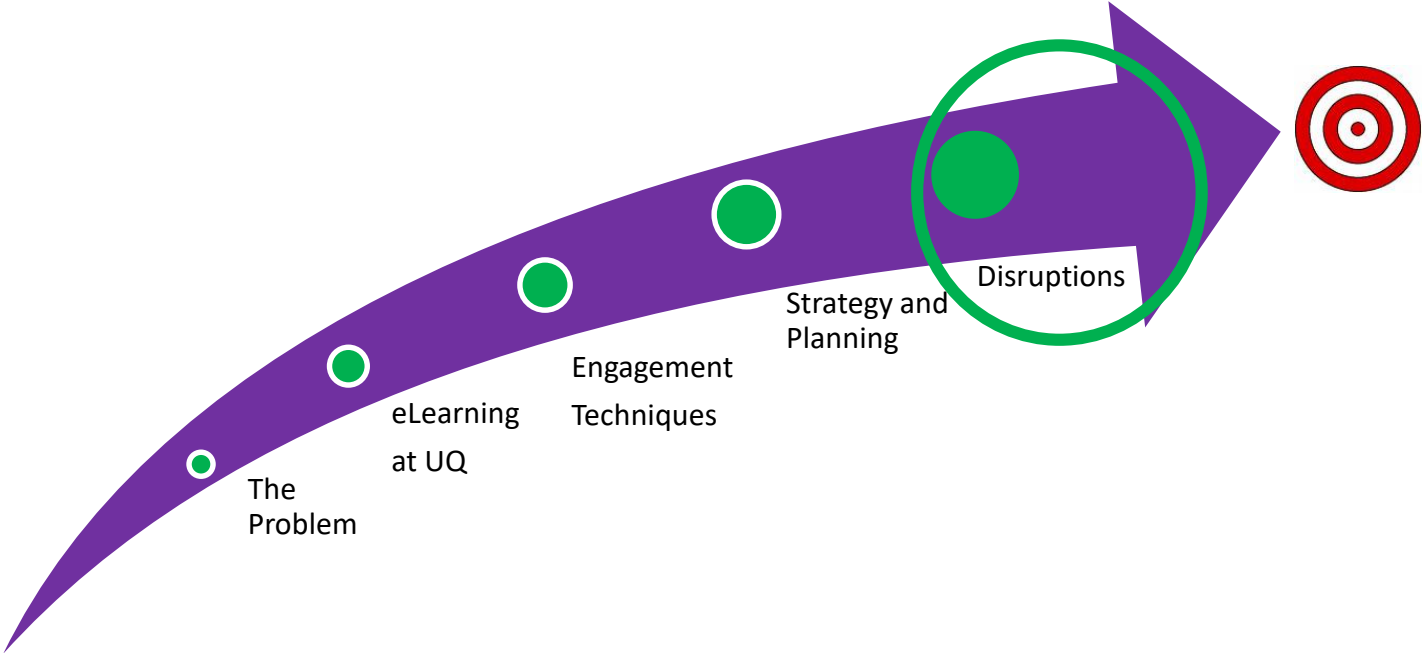
3. Alternate Controls

There are more ways to control work than using a plan. How do we get a package to a shop in the mall using...

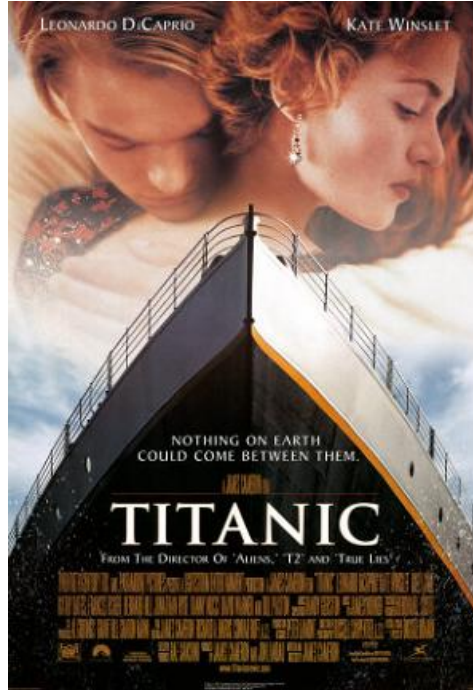
- Process control - map
- Input control - recruit
- Output control - reward
- Interactive control- phone
- Boundary control – rules/limits.



Talk outline...



Disruption Example 1 - Economies of Scale



20,000 universities making home movies.

Blockbusters cost \$10

Disruption Example 2 - Personalised Adaptive Learning

Cerego is an application where you can create large quizzes for highly effective personalised adaptive rote learning.

Integrates with LMS, publisher platforms and MOOCs

Cerego video....



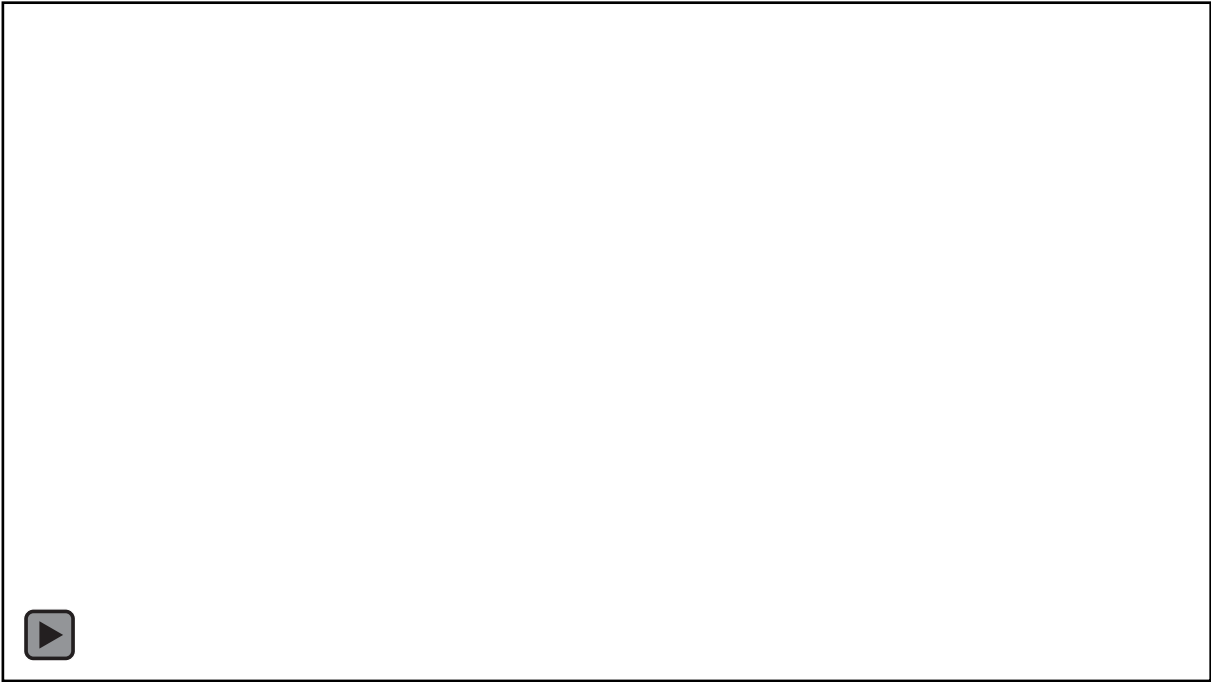
Disruption Example 3 – Integrated packages

A New Minimum Standard for Learning Materials?

- Rich multi-media for multiple learning modes;
- Adaptive and personalised for more effective learning;
- Gamified with feedback and targets for motivation;
- Reduced cost through global economies of scale;
- Maintained at the cutting edge of research by a large professional team funded by the international market.

Not as easily done by individual academics or even groups of universities

Yousician video...



Disruption Example 4 – Labs for Biology, Physics, Chem.

The chemistry lab quiz story



UNIVERSITY
QUEENSLAND
LIA



change

Thank you for listening

Simon Collyer



Questions?

<https://www.linkedin.com/in/drsimoncollyer/>

<http://www.dynamicmanagement.info/>

elearning.uq.edu.au

<https://www.elearning.uq.edu.au/projects/elearning-technology-roadmap>

Responses to Disruptions

What UQ does now	What UQ can do....
Text based learning content	Print replaced with high quality rich multimedia content serving global market - Think Sapling Labs - Scan and absorb
Face to Face Tuition	Content will also be adaptive, personalised and gamified - Think Cerego & Yousician - Scan and absorb
Culture and Social	Increasingly important 'value add' - Enhance
Campus and Buildings	Expensive - Make them 'value add': trimesters, active learning, commercial, social, residential, culture and sport.
Research	Seen as burden, Turn research into a key 'value add' through teaching and brand
Examinations	Investigate e-assessment and outsourcing
Certification - awarding degrees	Beware of new players that don't have research or campus costs - Find and build your 'value add'

Christensen, C., & Eyring, H. J. (2011). The Innovative University: Changing the DNA of Higher Education. Retrieved from <https://net.educause.edu/ir/library/pdf/ff1207s.pdf>

Roby, A. S. (2011). *ChangeU: Rebooting for the new talent economy*. New York: Kaplan. <https://net.educause.edu/ir/library/pdf/ff1207s.pdf>

Disruptions inform activities...

Possibly Redundant Activities

- Building advanced learning content
- Writing bespoke learning applications
- Building traditional lecture theatres

Useful Activities

- Vision: Identify your type and competitive advantages to set a vision
- Developing services that complement technology: Collaborative study spaces, residences, social, cultural, sporting, serving a market, flexibility.
- Collaborating with advanced content developers
- Building awareness of Off The Shelf options
- Investigating disaggregation opportunities: share services or outsource.
- Work readiness services
- International student work and cultural integration services

Models for the Future...

Traditional: Campus focused eLearning 1.0 - “shovelware”

Blended: Campus focused eLearning 3.0 - Only complementary on campus.

Pure Online: Increasingly competitive! Hard with campus and research.

Student Chooses: Every course can be on campus or online

Work Simulator: Students study in an office with advanced learning technologies and lectures as webinars; collaborating on projects. Student belongs!

Residential Campus: Most students live on campus - enjoy culture and social

Franchised: Top academics create advanced programs and rest are franchisees

Lifelong: Programmes broken down into competency clusters that students acquire just-in-time as required.

Start on Campus: Students start with one induction year on campus then get a job or a placement, and study online or intensive mode.

End on Campus: Students start online, maybe on a MOOC, and if that works out they complete on-campus in blended or intensive mode.

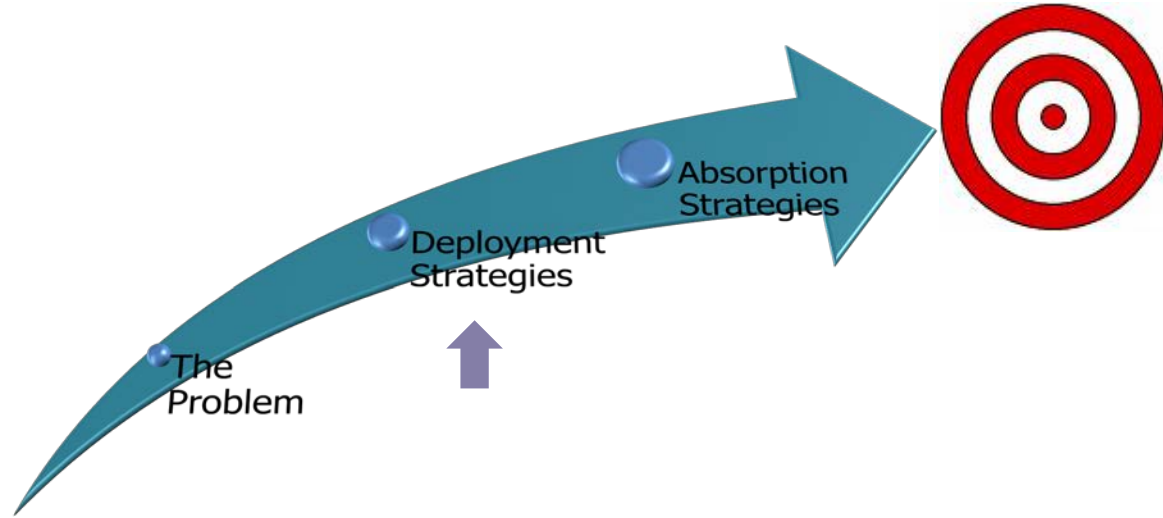
Edutech Sydney – June 2017

Technology management strategies to keep pace

General management strategies to keep pace

Higher Education management strategies to keep pace

Technology Deployment Strategies





Sustaining

On campus – f2f active learning - blended

Pure online – competing with the world

Residential experience - blended

Intensive mode - blended

Disruptive

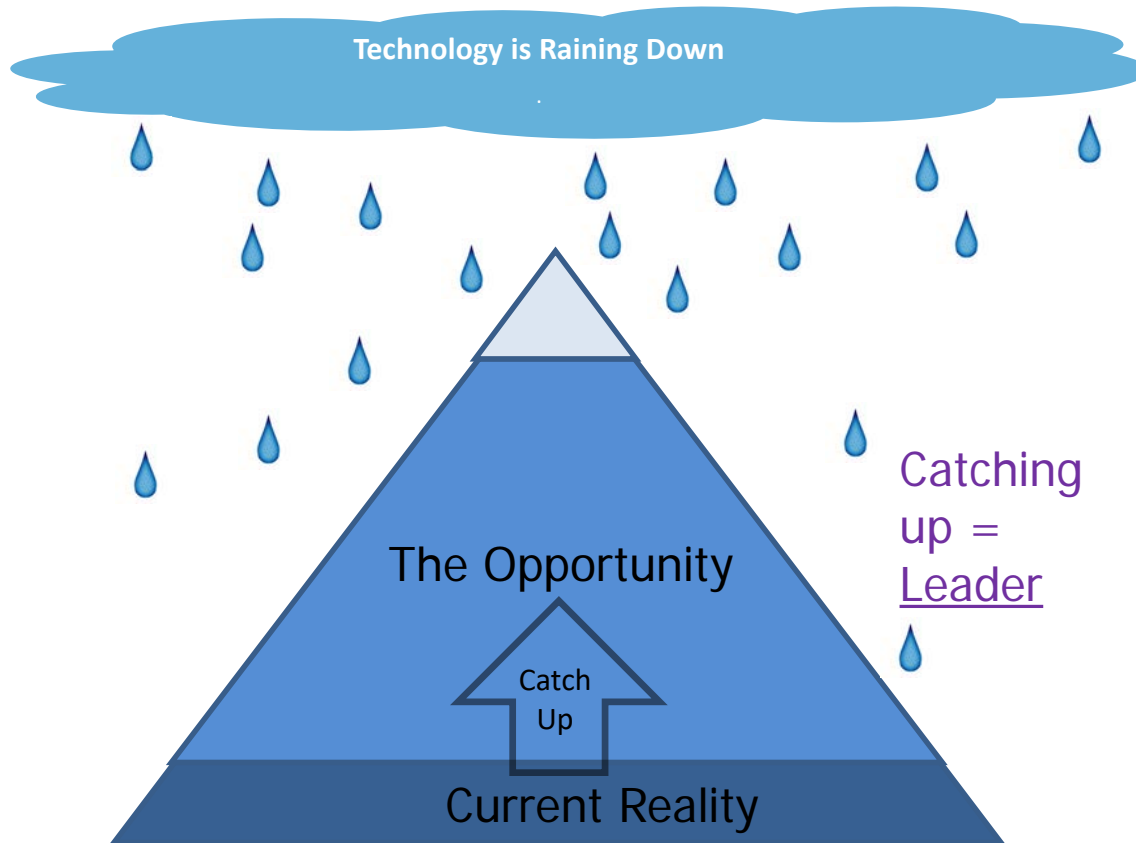
New academic calendar

Competency based learning

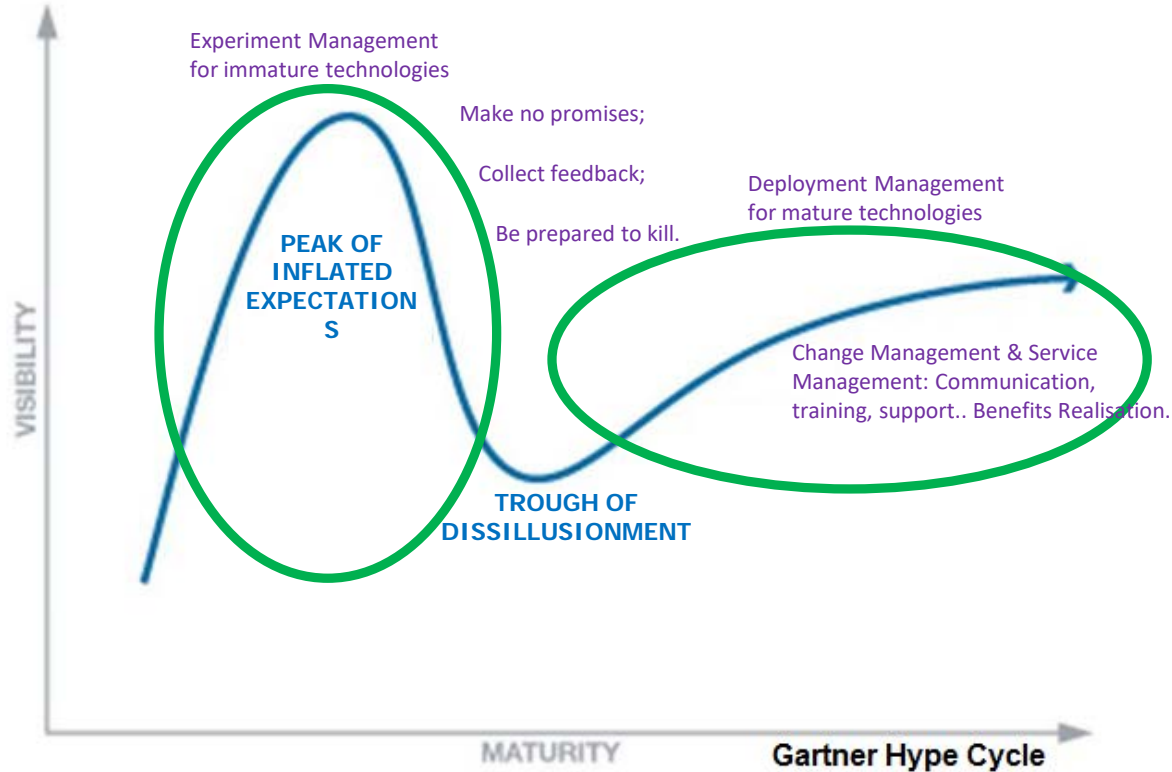
Self paced learning

Lifelong learning

Add missing proven mature technologies before 'innovating'



Manage innovations as experiments to avoid over investment...



Think vanilla for speed



Think blockbuster not home movies



10,000 universities don't have to make 10,000 home movies when they can share a blockbuster

Deployment Strategies

Add missing mature technologies first

Manage innovations as experiments

Go vanilla for update speed over time

Add tools with LTI

Leverage economies of scale

Realise benefits (change support)

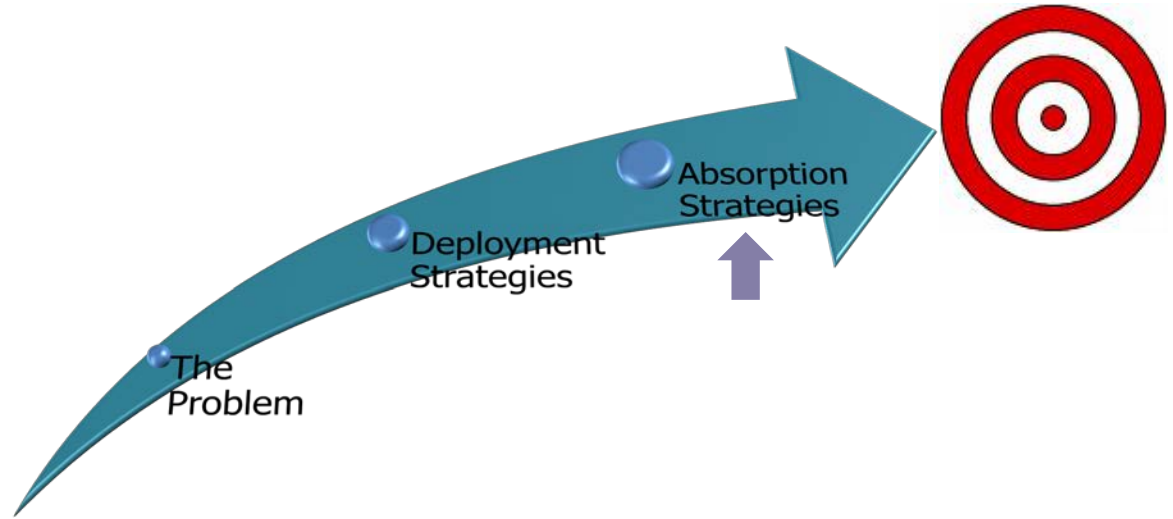
Prioritise by value – 30 courses is only 1%

Be data driven – what are they most using, wanting

Leverage BYOD and VDI to deploy s/w faster than labs

Actively scan for and test immature technologies

Talk outline...



Absorption Strategies

Benefits of keeping pace...

Learning outcomes; administrative efficiency; reach new markets (busy; interstate; overseas); equity (disabled; low SES; rural); protect diversity through collaboration; learning convenience (flexibility of time and place); industry connection (placements, employment); culture and community and social (e.g. cohort support); organisational management (data collection; student communications; analytics; student management); modern digital literacy skills for work.

- Henderson, M., Selwyn, N., & Aston, R. (2015). What works and why? Student perceptions of useful digital technology in university teaching and learning. . *Studies in Higher Education*. doi: 10.1080/03075079.2015.1007946
- JISC. (2008). Exploring Tangible Benefits of e-Learning: Does investment yield interest? Newcastle, UK: Northumbria University.
- U. S. Department of Education. (2010). Evaluation of Evidence-Based Practices in Online Learning A Meta-Analysis and Review of Online Learning Studies.

Absorption Strategies

TEL Change Study Goals

..to identify management, support and communication processes that optimise appropriate adoption of technology for teaching and learning...

Communications

Motivations

Support

Leadership

Higher Education Technology Enhanced Learning Change Study

The Group of Eight Universities chair recently lamented a “technology tsunami sweeping across our campuses” (Young 2014, p3) suggesting technology is changing at a faster rate than universities can presently absorb. This study will identify management approaches suitable for supporting educators in appropriate absorption of technology, to enhance learning across all faculties at universities.

Simon Collyer Ph.D.
Chris Campbell Ph.D.

Change Management Steps

Identify urgency

Create a Guiding Coalition

Developing a Change Vision

Communicating the Vision

Empowering Broad Action

Generating Short-term Wins

Never Letting Up

Incorporating into Culture

We asked...

What the participants reported was effective.

What the participants reported might be effective if implemented.

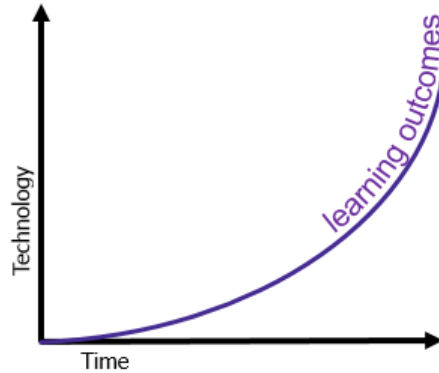
1/5 Identifying Urgency – Motivations



Manual marking was a phenomenal waste of office staff time. Ten to fifteen thousand assessments, saving an hour each.

By using videos and quizzes, I had spare time to invest in students and class activities

Identifying Urgency – Motivations



Examples

Adding online quizzes improved exam results.

Video assignment improved final exam through faster and more comprehensive feedback

3/5 Vision and Leadership



Better than coercion

Makes it safe

Focuses support resources

Requires confidence

4/5 Communicating the Vision



Awareness of options is a precursor to motivation

Frame communications around the daily work tasks

Peer referencing works:

- Local examples

- Case studies

5/5 Empowering Action – Support



Local support is trusted and available

Private support is less intimidating & embarrassing

Critical points for support

- for tool configuration
- for first student use

Kotter's 8 Change Management Steps

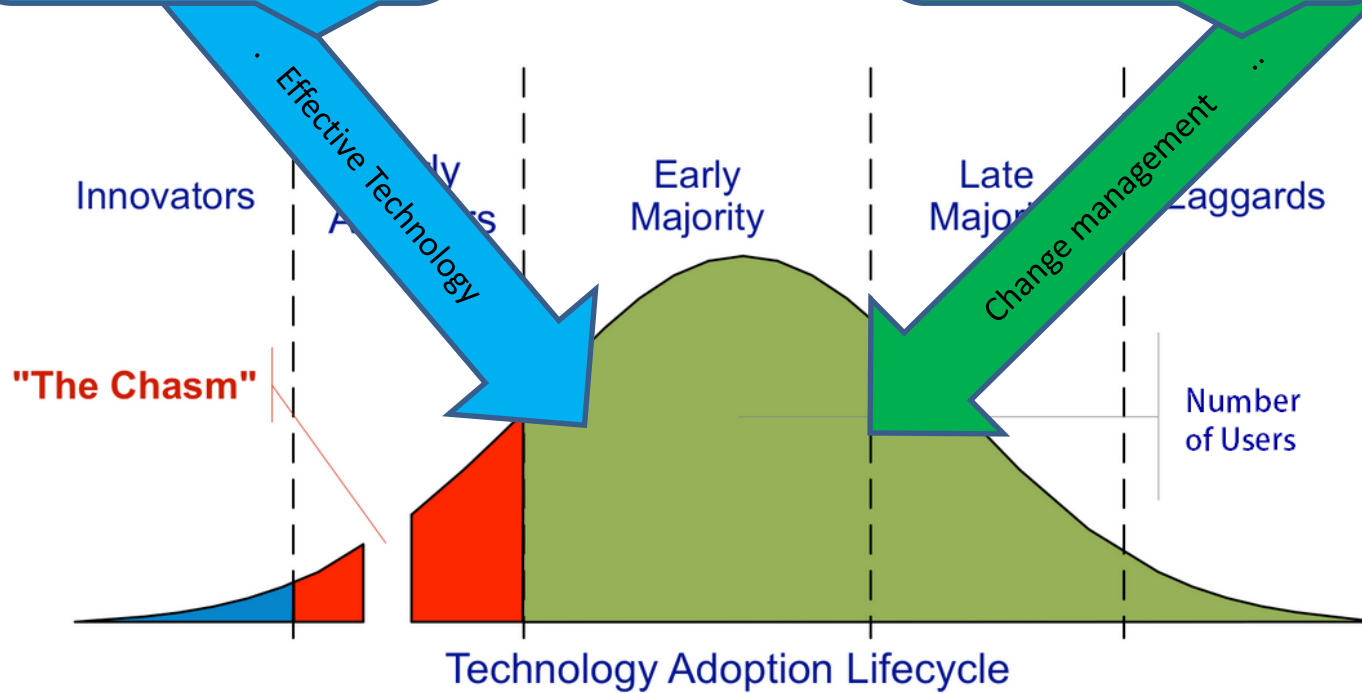
1. Identify urgency	Understand benefits and risks of not absorbing technology
2. Create a Guiding Coalition	Assign responsibility to committees to decide an appropriate vision
3. Vision and Leadership	Document the vision
4. Communicating the Vision for Buy-in	Share the vision: presentations, newsletters, seminars.
5. Empowering Broad-based Action	Build or assign support teams to help deliver mission. Motivate instructors.
6. Generating Short-term Wins	Successes are documented and spruiked
7. Never Letting Up	Progress is measured and reported.
8. Incorporating into Culture	Inductions, training and recognition.

Technology

Mature, vanilla, global (LTI), broadly applicable

Support

Vision, leadership, tapping motivation to save time and improve results, with personal support



Thank You 😊

<http://www.dynamicprojectmanagement.net/>

Questions?

