

Keeping our universities special

Surviving and thriving in a turbulent world





Keeping our universities special

How should universities change to remain special and successful in a dramatically changing world?

By 2020, will they have transformed from finishing schools for the brightest children of the middle classes into mass-market training academies for entry into professional careers?

Will academic communities devoted to intellectual discovery for its own sake give way to knowledge mills supplying scientific applications and business innovation?

Or will new and surprising models of 21st century learning emerge from the final demise of the Victorian vision of the cloistered academy?



Surviving and thriving in a turbulent world

It has become commonplace to observe that the world of higher education is undergoing radical changes, and that universities¹ are having to adapt to new challenges on every front. Much of the resulting literature has been a lament for the lost privileges of university life and the undermining of cherished academic values. Understandable as this reaction may be, it does not provide a good basis for active responses to the challenges and genuinely exciting opportunities opening up for UK universities.

This paper presents the emerging world of higher education as an open, fluid ecology of learning, replacing the historical producer-centric model of the economy of knowledge with one that fosters opportunities, creativity and innovation through communities of shared, co-operative learning. In this world, universities will need to redesign and re-assemble the basic building blocks of higher education, re-asserting in different ways their role as agents of learning, rather than simply providers of knowledge. Government too will need to rethink its strategies towards higher education, promoting policy outcomes more through encouraging demand-side engagement than through supply-side directives.

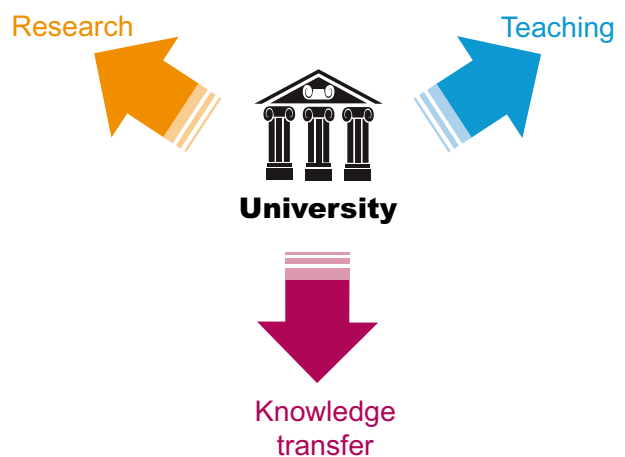
¹ We use the term 'universities' here as a shorthand for all Higher Education (HE) institutions

Lost certainties and declining hegemony

For many decades, universities have enjoyed a dominant position at the heart of the national economy of knowledge, asserting and being recognised for their ownership of a seamless triptych of research, teaching and knowledge transfer. The basis of the university proposition has been and still remains the select community of academic peers, exercising collective authority over the content, delivery, standards and recognition of what constitutes higher education.

This producer-led, self-defined model (Figure 1) has been sustained largely on its own terms by generous public funding and protection by statutory powers and regulations. And it has worked extraordinarily well, educating generations of national leaders in every field and sustaining the UK as a global engine of scientific and intellectual progress. The UK university sector today is a priceless national asset – a £20 billion enterprise, educating more than two million students at any time and responsible for the lion's share of the nation's research capabilities.

Figure 1: The university-centred model of HE



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But many of the assumptions and certainties that have sustained this model hitherto are being inexorably dismantled through shifts in the political, economic, social and technological environment. The world of higher education is turning inside out, and the rules for success are being rewritten in real time. The many symptoms of these changes can be summarised in four closely-interwoven themes:

- First, the economy of knowledge – the social machinery through which knowledge is produced, disseminated and applied – is exploding in every direction as demands for advanced knowledge become more crucial for every area of personal, public and business life. The scale and pervasiveness of this epidemic is growing beyond the capacity of higher education providers to shape and control its spread.
- Second, HE providers are becoming seen as just one group among many competitors for meeting the demands for knowledge from individuals, Government and industry, who accordingly now have real choices in the exercise of those demands. While universities have enjoyed continuous growth for the past decade or more, their share of total demand for knowledge services has declined as private providers, consultancies, think-tanks and research institutes have grown in scale and influence.
- Third, the advance and ubiquitous take-up of information technologies has shifted the balance of power in the economy of knowledge, from providers to users and customers. Students are increasingly able to choose where, when and how they learn; Government and business customers seeking the latest research findings are able to access best-in-class resources for themselves; and the sponsors of new research can mobilise global networks of leading minds through web-based mega-collaborations (such as the Human Genome project).

The future success and sustainability of universities depends on them being recognised as special within this turbulent environment.

- Fourth, the pendulum of public policy towards universities has swung from funding increased provision to extending the public benefits generated by higher education, in terms of social inclusion and mobility, business innovation and competitiveness, and most recently to the skills of the professional workforce. In view of the other three trends, this pendulum is most unlikely ever to swing back to the protection and subsidy of provider interests.

The future success and sustainability of universities depends on them being recognised as special within this turbulent environment.

‘Special’ in this context means playing distinctive roles and delivering valued services and benefits that:

- are relevant to the emerging needs of society, business and government
- attract viable levels of funding (whether public or private)
- no other players can provide.

The crucial common feature of these three criteria is that they are all determined outside the academy, and are not specified by providers. The profound implications of this simple observation are seen when we re-evaluate the basic building blocks of higher education.



Redesigning the university proposition

Figure 2 illustrates a general framework that can be used to describe the elements, or building blocks of the current university proposition.

Figure 2: The building blocks of HE



The seven generic building blocks are:

Organisation – the principles on which the organisation structures its resources and faces the outside world

Products – what the organisation does, and the form in which it presents its offers to the outside world

Delivery – the means and services through which those products are made available to customers and users

Quality – the criteria and processes for judging the fitness-for-purpose and standard of products and services

Brand – the values against which the reputation and status of the organisation and its products are judged

Economics – how the organisation earns its living and sustains its development

Governance – the accountabilities of the organisation and how they are managed and assured.

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More positively, the same developments offer pointers towards new and potentially more sustainable propositions for the future.

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Organising higher education – from subjects to solutions

The basic organising precept for every university is the academic discipline or subject area, defined within boundaries set by the peer community for each discipline. Indeed, in most universities the loyalties of academic staff often lean more towards their wider subject peer group than to their home institution. However, national and global demands for new solutions to highly complex and deep-seated problems in every area of life are driving a shift from academic, subject-based organisation of knowledge towards innovative intellectual syntheses that offer new ways of understanding and responding to the needs of individuals, societies and business. In this environment, the extension and application of knowledge comes increasingly through cross-disciplinary collaborations, heavily focused on practice and useful impacts, displacing the traditional view of a serendipitous cascade from 'pure' or blue-sky subject-based research through to practical applications.

The catch-terms for the organisation of knowledge within the emerging environment are openness, collaboration, co-production and sharing. They point towards a borderless world, in which problem-solving communities and exchanges increasingly transcend organisational boundaries. These trends pose threats to the introspective, subject-centred cultures that have characterised the HE community in the past, demanding different ways of working at institutional and individual levels. On the positive side, universities are perhaps uniquely well fitted to engage with this world, building on their independence and legacy values of collegiality and public service to participate more directly in processes of local, national and global development and regeneration.

However, the cultural barriers to realising this potential are huge, requiring both willingness to dismantle the barricades between different academic disciplines and also acceptance that the organisation of knowledge will increasingly be determined outside the academy.



The products of higher education – from knowledge to learning

The rapid growth of open-source and open-access knowledge challenges the traditional authority and control of the professoriate over the content and form of what is researched, taught and published. This raises multiple issues for universities – about the duplicated production of essentially similar resources such as course materials across institutions, when world-class content is (literally) freely available on the web; about the processes for disseminating research results to wider academic and practitioner audiences; and also about the ownership and control of intellectual property rights by universities and academics.

There has been a strong trend, encouraged by Government, for universities to pay greater attention to protecting and exploiting the commercial possibilities from intellectual property that they have developed. The appropriateness of this development is, however, being questioned by many observers who regard it as inhibiting rather than encouraging wider dissemination and application of university-generated knowledge. Although a few institutions will be able to build niche sustainable positions as recognised sources of ‘best in class’ content on a global level, most others will have to identify ways of adding value for users of open-source content and public-domain intellectual property – for example, helping students and business clients to develop useful insights and novel applications for their particular needs.

In a web-enabled open-source world, knowledge is an increasingly cheap and readily accessible commodity, and universities are one group among many responding to the spiralling demand for it.

The key to universities’ special contribution in this environment might be found in the distinctions between knowledge and learning. Knowledge can be defined as the combination of information or content (data, facts, opinions, etc.) with the skills and methods for acquiring and using it (such as models, theories, experimental methodologies and scholarship). Understood in these terms, in a web-enabled open-source world, knowledge is an increasingly cheap and readily accessible

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commodity, and universities are one group among many responding to the spiralling demand for it. Much of that demand is for ‘bite sized’, instrumental knowledge to satisfy immediate personal or corporate needs, whether to demonstrate qualifications for career entry, to meet current business requirements or to resolve specific practical or policy problems.

However, there are growing indications of demand from employers and others for something more than instrumental knowledge, which can empower individuals, corporations and governments to discriminate and apply judgments across the plethora of information and theories available to them. This ‘something more’ is the critical, reflective and rigorous process of sceptical challenge to received knowledge that academics recognise as learning. It acknowledges the contextual and provisional nature of most of what we ‘know’ and the importance of independent and creative thinking when we relate existing knowledge to new problems. Above all, it recognises the essentially interactive, social nature of learning as a communal activity.

It is this distinction, we suggest, that differentiates universities from other providers and sources of ‘mere’ knowledge. By emphasising their position as agents of learning, rather than simply producers and purveyors of knowledge, they can set themselves apart from other training and skills providers, consultancies, think tanks and research agencies. And by so doing, they can secure their unique position at the heart of the social systems through which learning is extended, shared and applied.



The delivery of higher education – from pedagogy to partnerships

In contrast to long-established models of prescribed terms, courses and academically-designed research projects, the emerging pattern of demand for knowledge content and services is firmly user and context-driven. People want knowledge services to be available through the channels and at the times most appropriate to their needs, whether they are students, businesses, government or the wider public. They do not necessarily want to take three or more years out from their lives to extend their school education or to secure academic qualifications, especially when the direct and opportunity costs of doing so are inexorably rising. Nor are business or government clients willing to wait for academic quality wheels to grind the research results that they need now. This pattern of contingent, time-driven demand is at odds with the traditional HE portfolio of tightly prescribed teaching programmes, process-bound research projects and peer-reviewed publications. The mismatch has already created opportunities for alternative suppliers of all kinds of knowledge services, as witness the burgeoning rise of private sector professional training providers and increased Government and business reliance on consultancies and private research organisations.

The challenge for universities is to embrace the user-led ethos of a market environment while also offering something distinctive and in some senses better than their newer competitors.

Part of the response, already widely adopted, is to offer greater variety of delivery models for HE products – part-time and shortened courses, e-learning and blended learning programmes, transferable credit-based provision, short-term research commissions, and the like. However, there is nothing about this kind of response

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that competitors cannot easily emulate, and often do better than universities. The benefits, moreover, are inherently short-term, being limited to the engagement with current students and clients. It is thus a necessary but insufficient response stratagem.

A more distinctive and more self-sustaining response is for universities to emphasise their two-way relationships with their students and business partners, establishing themselves as facilitators, mentors and guides through life-long learning partnerships. More equal and co-productive relationships of this kind would be in keeping with the user-led, collaborative values of the Web 2.0 generation, and would represent the logical development of learner-centred education – from customisation of provision for students to customisation of experiences with and by learners. In this view of the learning experience, which some commentators have labelled Learning 2.0 (or ‘andragogy’²), the pedagogic teacher-student exchange morphs into an altogether more collaborative relationship, through which the student is encouraged to develop as an independent and critical learner, and not just the recipient of their teachers’ knowledge.

There is no inherent reason that this relationship should stop at graduation. Given that every university sends out thousands of newly-minted learners every year, the prizes from investing in student relationships as lifelong recruits to an extended university community are huge. The seeds of such relationships are already being sown, albeit for different reasons. Universities are increasingly reaching out to potential future students in schools and colleges, motivating and preparing them to enter higher education. Equally, many are making greater efforts to keep in touch with their past graduates, albeit primarily as a potential source of charitable giving rather than to extend their learning relationships.

² Andragogy describes the processes of engaging learners in the planning, structure and evaluation of their learning experiences, in contrast to the directed and didactic processes of pedagogy (Knowles, “From pedagogy to andragogy”, Cambridge 1980)



The quality of higher education – from peer review to ‘kite marks’

The immediate response of most academics to the question of what makes universities special would be one word – ‘quality’. For decades or longer, a distinctive feature of universities has been their licence to specify and judge the criteria of quality in higher education. But several developments are threatening the established authority of universities in setting standards and assuring the quality of provision across HE teaching and research. They include the rising importance of alternative quality criteria – including those set by employers’ organisations (like Sector Skills Agencies), professional and statutory regulatory bodies, league tables and user feedback. These alternative criteria are increasingly influencing demand from students and employers and potentially will shape public funding. This trend has been encouraged by Government, for example through promotion of the National Student Survey and through measures to give employers greater voice in the design and delivery of HE programmes.

There are real opportunities here for universities to re-establish themselves as trusted user advocates and arbiters of quality in knowledge.

On a wider front, the authority of academic peer review as the arbiter of quality in knowledge is being undermined by the proliferation of readily-accessible and unregulated ‘alternative’ sources of knowledge, such as Google, Wikipedia and blogs. However, the growing use of such sources as the first point of call for students, professionals and the media alike is also fuelling concerns about their authority and reliability. There are emerging demands from both teachers and lay users of these open-source and proprietary knowledge sources for some trusted assurance of their reliability.

There are real opportunities here for HE institutions to re-establish themselves as trusted user advocates and arbiters of quality, provided that their criteria for quality are themselves related to external needs and not just the sometimes arcane and self-referring terms of the academic community. The concept of a UK universities’ ‘kite mark’ for open-access knowledge resources, accrediting them as complying with high standards of rigour and assurance, may not be so far-fetched.

The branding of higher education – from degrees to recognised achievements

The award of a university honours degree, at bachelors and postgraduate levels, has long been regarded as the gold standard measure of recognition for educational achievement. The right of every university to award its own degrees has been a defining tenet of higher education. But this preserve is increasingly open to challenge from:

- the increasing numbers of new and alternative providers being granted degree-awarding powers
- concerns about the real comparability of nominally similar awards from different universities
- employers' preferences for professional qualifications and certification of proficiency in specific areas of practice
- emerging demands for portable recognition of diverse achievements accumulated through life-long learning from multiple sources.

As HE study becomes more modular, episodic, portable and credit-related, the concept of single-institution degree awards as the benchmark for recognising achievements may have to adapt considerably. Current proposals for a national HE credit scheme could help overcome the fragmented nature of recent developments and enable individuals to build up their portfolio of educational credentials in the ways that best suit their lives.

Even in this portfolio world, the distinctive reputation of individual universities will remain crucial. It seems likely that the personal credentials and 'branding' that students gain from the particular HE institution(s) they have attended will remain a valued asset, at least for those universities perceived nationally and internationally as blue chip institutions. Thus far, the basis for those perceptions has remained rooted in supply-side measures of university excellence – research ratings, teaching quality, entrance standards and degree awards.

In future, the criteria for institutional excellence can be expected to change, towards the impacts that the university has on the world, the lifelong success of its students and the relationships it sustains with business, government and its local and global communities.

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The economics of higher education – from public subsidy to portfolio management

The economics of higher education has long been synonymous with the level and terms of public subsidy for institutions and students. Block grant funding, for teaching and for research, is in practice only one among a variety of income sources for most universities, and accounts for much less than half of total revenues for many. And yet, even in these institutions the requirements for securing public funds, and their sensitivities to variations in that funding, dominate their business strategies and operating plans. The overarching importance of public funding to the economics of HE shapes the culture of the whole sector, motivating compliance with the terms of government grants and related funding (such as home student fees), and creating dissonance between the declared autonomy and diversity of institutions and the observed convergence of their behaviours.

The real value of public funding for universities is, at best, unlikely to rise, and the funding available is likely to be more contingent on institutions' performance in supporting the Government's social and economic agenda.

The HE sector's compliant dependence on public funding is at odds with a strong, proactive response to the challenges of a changing world, for several reasons:

- Competing pressures and constraints on public spending, and the growing costs of subsidising HE – and in particular, of subsidising students – make it very unlikely that historical levels of grant funding will be sustainable in the long term. The real value of public funding for universities is, at best, unlikely to rise, and the funding available is likely to be more contingent on institutions' performance in supporting the Government's social and economic agenda.
- The public support model encourages a deficit funding culture within institutions, which gives priority to allocating and spending the funds available to maintain the inherited cost base, and blunts the incentives for developing alternative streams of revenue, except as a further source of funding for academic activity (mainly research).
- Focus on the level and terms of public funding diverts institutions from extending the ways in which they create value for other customers, whether students or business, further leaving them vulnerable to competition from service providers whose only source of income is that value. Even the current Government emphasis on universities developing co-funding arrangements with employers is being presented – by institutions and Ministers alike – as a supplement to public funding, whereas the employers are interested only in the tangible value they would gain from such arrangements.

The response to these challenges in other sectors of public-private enterprise, and indeed in a few universities, is to manage their resources and energies in ways that balance a portfolio of earnings from a variety of sources. The economics of such organisations are driven, not by the maximisation of cost budgets within expected revenues, but by optimising the overall financial contribution from a portfolio of core services and products for balanced long-term sustainability.

Governance and regulation – from process assurance to outcomes

The governance of higher education is complex, arcane and often antipathetic to modernisation and outward-looking strategic change. Universities complain vociferously about the burdens imposed by the demands of public accountability and the vagaries of Ministerial policies. But in practice, these external constraints are at least matched by the sea anchors of internal procedures, committee structures and institutionalised conservatism that characterise most universities. Whether externally imposed or internally generated, the driver for most governance arrangements has been the maintenance of due processes – whether to assure that public finance requirements have been complied with, or to ensure that all interested parties have been duly consulted on proposals for change.

In both regards (public and private), inherited governance structures act as constraints to change and adaptability. The changing environment for HE within the global economy of knowledge is creating fundamental tensions for current models of public and institutional governance.

For HE institutions, existing governance arrangements are pulled in three competing directions – the protection of traditional academic standards and collegiate autonomy, the assurance of public fiscal and regulatory responsibilities, and the ‘bottom line’ corporate imperatives of economic self-sustainability. For Government, the challenge has been to resolve the contradictions between the terms on which universities continue to receive substantial public funding and the wish to open up the whole arena of higher education to a more diverse and market-led mix of public and private provision.

The drivers of governance
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outcomes achieved.

On both fronts, the drivers of governance and accountability are moving from process compliance to the results and outcomes achieved. This is to be expected in a world where government policy is increasingly concerned with the externality benefits that the HE sector generates for society and the economy, and where institutional sustainability depends on success in satisfying external needs and demands. Reform of governance structures and arrangements in response to these pressures will require both Government and universities, individually and collectively, to redefine their relationships, responsibilities and accountabilities for a new world order in HE.



Universities in an ecology of learning – a new model for HE?

This new order, emerging from fundamental shifts in the politics, economics, social context and technology of higher education, can best be represented as a global ecology of learning that embraces and transcends the transactional economy of knowledge dissemination and exchange.

The ecology of learning is a social and economic system built upon open, engaged communities of learning:

Open, both in terms of knowledge content – open-sourced, open-access, universally available – and also in terms of organisation, which is essentially borderless, inclusive and collaborative at every level.

Engaged, in the sense that the system is predominantly concerned with the development, sharing and application of knowledge to help society, Governments and business to learn how better to address shared needs.

Communities, recognising that engagement is essentially a social process of bringing together the worlds of scholarship and practice, whether conducted face-to-face or using technologies.

Learning, as something beyond 'mere' knowledge, and hence beyond the domain of skills training, technology transfer projects or research publications, and which is recognised as fundamental for sustainable, creative societies in the 21st century.

Unlike the traditional economy of learning, which is concerned with maximising the dissemination of outputs – research publications, students taught, knowledge products sold to business and other users – the ecology of learning is concerned with generating *outcomes* that can feed back into the continuous growth and sustainability of the whole system. These outcomes, illustrated in Figure 3 (opposite), are about opportunity, creativity and innovation:

Opportunity for individuals to realise their intellectual potential, to continue learning and to engage with their peers throughout their post-school careers, through formal and informal means tailored to their lives and needs.

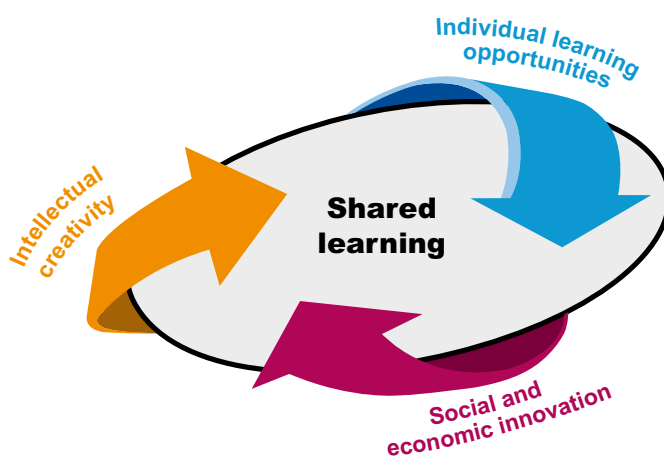


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Creativity to extend the boundaries of society's collective knowledge and understanding of the world (our intellectual capital) through collaborative research and cross-fertilisation of ideas.

Innovation to develop solutions to complex social and economic needs and challenges, through co-operative and focused learning within broad peer groups of academics, practitioners and other stakeholders.

Figure 3: The ecology of learning



This is of course an idealised view of the future world for higher education, and represents directions of travel rather than an end-state. It is nonetheless one that reflects the changing forces and opportunities for learning in 21st century society, and one within which universities can exercise positive and forward-looking leadership, rather than having to defend their increasingly beleaguered inheritances.



How should universities respond in the new world?

We have offered a number of suggestions for the ways in which universities should respond to the emerging challenges and opportunities in our discussion of the basic building blocks of HE. In broad terms, the model that emerges for a future HE sector might look like Figure 4, below. However, as autonomous and independent institutions, each university will wish to formulate their own response to the changing world, to redesign the building blocks in their own ways and to re-combine them in diverse ways that best reflect their respective missions, histories and potential. The overall picture for the university sector in 2020 is likely to defy simplifying generalisations, beyond a common commitment to the values of individual opportunity, collaborative creativity and engaged innovation that define the ecology of learning.

Figure 4: The building blocks of HE in 2020?



The transition from inherited to new models for university organisation, products, delivery, etc will not be straightforward and will doubtless entail some painful and difficult decisions. What, for example, will be the place of traditional academic subjects in organisational models designed around cross-disciplinary practice or applications? What, in particular, will be the outlook for scholarly subjects with no immediate applicability, like medieval history? It would be a travesty if there was no place for such subjects in the new world of HE, although it is unlikely that the system and market will sustain more than a few centres of national excellence in the more arcane areas.

By a similar token, it is unlikely that all or even most universities will be able to sustain substantial original (creative) research capabilities, given the increased accessibility of staff and results from the very best-in-class facilities. The outlook here might be analogous to the IT sector, where a few global Original Equipment Manufacturers (OEMs) support much larger numbers of system integrators and providers of specialist solutions.

Another set of difficult questions will arise with respect to the staffing of universities and the nature of academic careers in the future world. The emphases on individual mobility, on interchanges between academe and practice, and on new models of learning delivery (among many other things) do not sit easily with the inherited pattern of lifetime careers built on staged progression through the hierarchy of academic grades. The skills, career paths and reward patterns appropriate to an open ecology of learning will demand major changes to the workforce framework for HE.

These issues will not be resolved by individual universities each pursuing their own best strategies, but will require collective and collaborative solutions across institutions. There is, for example, already a degree of quiet rationalisation between institutions to consolidate capabilities in specialist subject areas, which may need to become more overtly managed at regional or even national levels. And some institutions have begun unbuckling the strait-jacket of national pay and grading structures to encourage greater two-way mobility of staff between the university and outside partners. Again, the precedents being set here will require collective sector wide measures to realise the benefits more widely.

What are the implications for Government policy?

The need for collective and collaborative actions to facilitate innovation by individual universities might be the trigger for further Government intervention in the HE system. This could be counterproductive if such interventions perpetuate the ambiguities of Government policy towards HE in recent years. HE policies, at least in England, have on the one hand sought to introduce greater market dynamism into the sector, by encouraging new entrants and competitors, fostering choice at local levels, and empowering student and employer demand. At the same time, other policies have treated universities as public service agents by holding institutions accountable for the delivery of Government goals for social inclusion, workforce skills and industrial competitiveness. The net result has been to encourage a culture of caution and compliance in the behaviours of many universities, which is inimical to the demands of their changing world.

The ecology of learning is a public system embracing the activities and interactions of private players – universities, students, practitioners, business, etc. It generates public outcomes and benefits, especially given its commitment to open access and inclusive opportunities. It is likely to remain significantly dependent on public funding, whether directly for services and public benefits provided or indirectly through funding for students and other client groups. So Government will retain important interests in the working of the HE system. But this public interest does not imply that Government should seek to shape or control the system.



The ‘something for something’ principle of public funding should be used to make clear the terms of the direct contract between Government and universities, and the need for assurances that the contract – where agreed – is delivered. Beyond that, however, Government can best encourage the development of an outward-looking, socially-engaged higher education sector by making universities more vulnerable to the effectiveness of their responses to external demands. This increases the risks that some universities will fail. Paradoxically, these risks may be greatest for those that adopt the most cautious strategies. Conversely, the most successful institutions have been and will remain those that have reduced their dependence on public funding and have grown through enterprise and innovations in new opportunity areas.

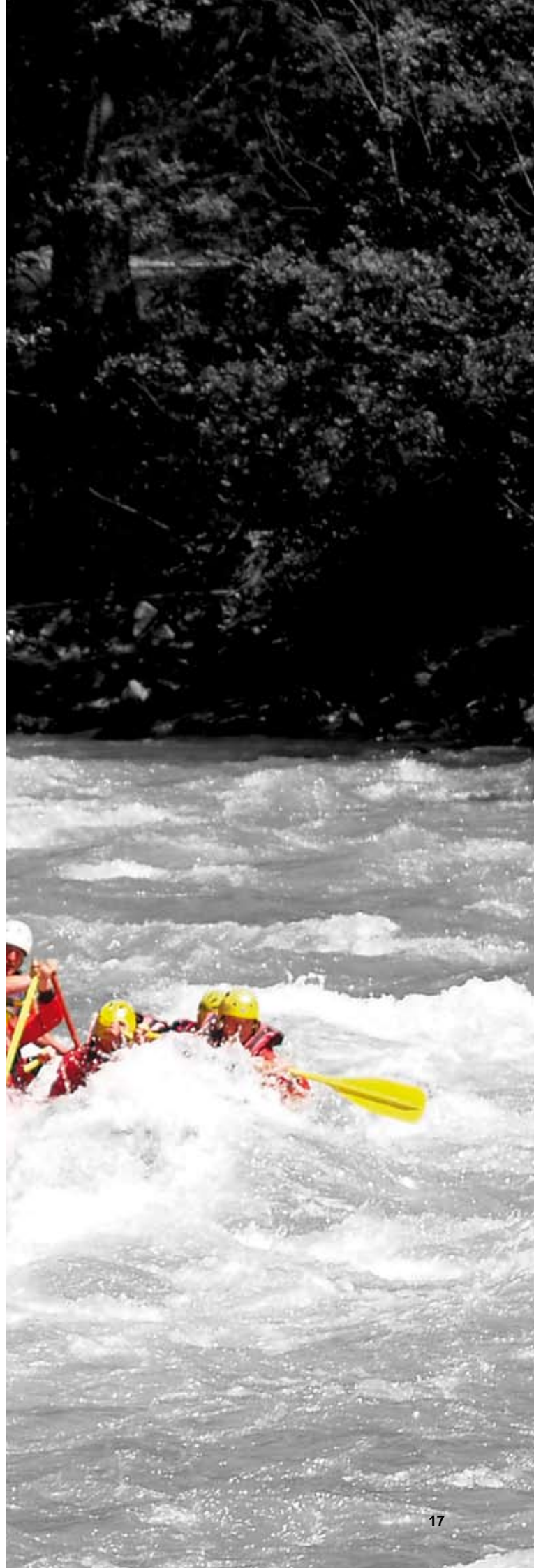
It can indeed be argued that some of the greatest constraints to the development of an ecology of opportunity, creativity and innovation in higher education are to be found on the demand side of the system. Widening participation, for example, depends on increasing levels of ambition and achievement among disadvantaged young people; increased employer engagement depends on large and medium-sized companies looking to enhance their investment in the talent they employ; greater levels of research-led innovation similarly depend on businesses and public service providers actively seeking such sources of competitive advantage. Government policies to promote and support demand-side engagement in these areas remain relatively underdeveloped, and should be prioritised.

What is needed now is for the sector to transform itself from *without*, from the outside-in, while remaining true to its defining values of independence and learning. It is some challenge.

Where to start?

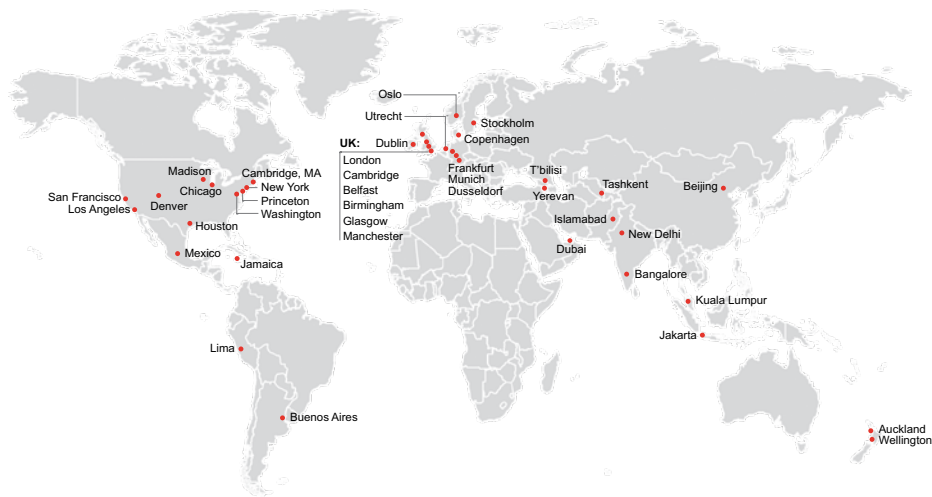
The revolution described here has of course already started, and the forces for change in the political, economic, social and technological environment for higher education are well entrenched. The response, however, from universities and from Government is still relatively tentative and incremental, which may not suffice for a future of bold shifts and discontinuities.

It is sometimes said that the endurance of the university sector over many decades has been due to its talent for transforming itself gradually from within whilst remaining outwardly stable. What is needed now is for the sector to transform itself from *without*, from the outside-in, while remaining true to its defining values of independence and learning. It is some challenge.





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