



Entrepreneurship in Education

**The entrepreneurial university revisited:  
promoting change in times of uncertainty**

Edited by Chris Baker  
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The Entrepreneurial University Leaders Programme was established in 2010, by a group of leaders who felt that higher education needed to respond more entrepreneurially to the challenges it faced. Over the last seven years the challenges have grown in scale and volume and as a sector we face unparalleled change with the formation of the Office for Students, increased competition, and international recruitment uncertainty. The ability to respond entrepreneurially is essential if universities and colleges are to continue to not only survive but also to thrive.

Last year we changed the name to Entrepreneurial Leaders, recognising that the skills learnt can be applied to many different sectors and organisations. Over 150 leaders have participated in Entrepreneurial Leaders. Many have been promoted to senior levels, many have gone on to lead significant change within their organisations and some have set up their own companies. Entrepreneurial Leaders has had a significant effect on their lives and where they work.

Entrepreneurial Leaders forms a key part of our work at the National Centre for Entrepreneurship in Education (NCEE). We support higher education to build its entrepreneurial future, ensuring UK higher education remains at the forefront of enterprise and entrepreneurship and is equipped for an ever-changing world. Our partners are entrepreneurial universities who have a local, national and international focus. Increasingly we are working internationally, which reflects the UK's outward facing higher education sector, for example, we are part of China's strategy to build a more entrepreneurial culture in higher education. All our work feeds into Entrepreneurial Leaders creating a dynamic and relevant programme.

Entrepreneurial Leaders engages a wide range of inspirational contributors all involved in shaping the sector: policy wonks, vice-chancellors, chief executives, and national, regional and local government. Learning from other leaders is central – particularly from their successes and failures and their entrepreneurial responses. Importantly we have created a community, a network that remain close to the programme and each other, who continue to support the sector in its entrepreneurial challenges. This publication enables an insight into the programme, and our thinking. It enables an insight into our contributors' assessment of the future, how they believe we should manage change and how we can lead in these uncertain times.

Regardless of the challenge ahead, this is an exciting time for the sector with many opportunities for those who can respond entrepreneurially. I wish you luck in your entrepreneurial endeavours!

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This publication is intended to illustrate the approach that underpins Entrepreneurial Leaders. Chris Baker, editor of this publication, as well as the Programme Director, Entrepreneurial University Leaders Programme (2017) and Director, Work & Learning Opportunities c.i.c, draws on the thinking of some of the contributors from the 2017 programme and further explores ways to lead change within the sector.

## WHAT IS ENTREPRENEURIAL LEADERS?

### **Chris Baker, Entrepreneurial Leaders Programme Director, 2017, NCEE**

Entrepreneurial Leaders seeks to enable senior university leaders to explore the challenges facing the sector, both now and in the future. It makes the case for universities, as organisations, to adopt a more entrepreneurial approach to tackling the challenges. It explores the task facing leaders who want to act to embrace and create change in an uncertain environment.

The design of the programme takes participants from theory through practice to action. This spans three modules spread over roughly six months. There are three themes that provide continuity across the modules and these are:

- Leading change in higher education
- Higher education: trends and future development
- The entrepreneurial university in practice

Learning on Entrepreneurial Leaders is supported by a wide range of contributors from within and beyond the sector. In 2017 there were 48 contributors, eight of whom were Vice-Chancellors or equivalent. Their contributions are designed to relate to one or more of the themes outlined above. The emphasis is on action learning that is undertaken in small groups and stimulated by activities that participants are required to do in between modules. Tutors who have previously completed Entrepreneurial Leaders facilitate this.

Entrepreneurial Leaders is fundamentally a network of senior university leaders. Many of the contributors are alumni of the programme. This is what makes it distinctive and so highly valued by those who have taken part over the last seven years.

The National Centre for Entrepreneurship in Education has produced two publications that have underpinned its Entrepreneurial Leaders programme. The first entitled, "Leading the Entrepreneurial University", by Allan Gibb, Gay Haskins, Paul Hannon and Ian Robinson, which was published in 2009 and revised in 2012. By way of a substantial review of the literature, the publication set out the challenges to leadership of universities arising from changes in the global environment and the implications for the entrepreneurial design of the higher education sector. The focus was upon the impact of a growing complex and uncertain environment on key areas of university activity and the leadership challenges involved. The second, "The Entrepreneurial University: from Concept to Action" edited by Paul Coyle, Allan Gibb and Gay Haskins was published in 2013. This publication sought to demonstrate concept, action and impact associated with development of the entrepreneurial university. Part of the publication consisted of eleven short vignettes written by senior university personnel who have attended the programme. They were written to enhance the reader's understanding of how different universities may approach the issue of university enterprise, entrepreneurship and innovation.

## SUMMARY OF THE CONTENTS

This publication continues the dialogue established in the earlier works by examining - through a series of short articles - the three key themes of the programme in 2017:

### Leading change in higher education

Entrepreneurial Leaders is about leaders and leadership in a time of change and volatility in higher education - both locally and globally. Approaches therefore range from the strategic, to the personal and academic. The first three contributions from Professor Michael Thomas, Professor Graham Henderson and Professor Lynn Martin illustrate each of these in turn. Professor Thomas looks at the challenges for leaders balancing the interests of students, staff and external stakeholders. Professor Henderson offers a personal reflection on the role of the Vice-Chancellor. Professor Martin looks at the distinctive nature of entrepreneurial leadership and whether it is applicable to universities.

### Higher education: trends and future development

Thinking about the future in its broadest sense might seem a luxury that detracts from tackling the pressing problems of the here and now. Entrepreneurial Leaders tries to shine a light on the future and give participants a chance to look at how the bigger challenges can be analysed and addressed. These are issues that universities alone cannot resolve but can contribute to their solution. James Ransom, from Universities UK, considers the changes taking place nationally and globally that will determine the context within which universities operate in the long term. This type of analysis is at the foreground of the final module that considers how all university leaders need to have a grasp of the wider context to be effective. Dr Bruno Tindemans considers how futures thinking can help us work beyond the next crisis and address some of the issues identified by James Ransom. His book, *Thinking Futures: Strategy at the Edge of Complexity and Uncertainty* (2016), was a set text for Entrepreneurial Leaders in 2017.

Professor John Domingue from the Open University takes a look at how the innovative use of new and emerging technologies, although disruptive, can enhance the way students learn and interact with their institution. He considers how successful universities are adapting to these technologies which may be the key to their survival.

### The entrepreneurial university in practice

Entrepreneurial Leaders is a process moving from understanding concepts, learning from practice and through to applying both of those to promote change. This is brought together in development plans that participants devise to implement change in their own institution. Two examples of these are offered to illustrate the breadth and diversity of the way that innovation can flow from the programme. Professor Karen Bryan as part of her new role looks at regional development as a focus for change. In the second piece Dr Andy Salmon looks at the potential of design thinking to promote innovation. He highlights the value of learning from other institutions and their approaches. This is another distinctive feature of Entrepreneurial Leaders as participants have unrivalled insights into the universities of other participants, contributors and through institutional visits. In 2017 the visits included, the University of Lincoln, the School of African and Oriental Studies and Regent's University London. In addition there was a visit to Balliol College, Oxford where the Master, Professor Drummond Bone, reflected on the challenges facing his college. This is the final piece in the section and is designed to show that the challenges universities face will often be dependent on history, context and priorities.

### Postscript

In a final piece Chris Baker reflects on the continuing relevance of the entrepreneurial university as both a concept and call to action. He also considers how Entrepreneurial Leaders can continue to provide a contribution to the challenges facing the sector.

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Professor Michael Thomas, Vice-Chancellor, University of Central Lancashire

### The leadership challenge

#### Internal challenges

Within the entrepreneurial context the challenges facing university leaders in the present time, irrespective of the external environment, include the need for the leaders of universities to retain their organisations' core business and keep students at the heart of their organisations activities. Core business is clearly related to student recruitment, progression, employability, undergraduate and postgraduate programmes and both teaching and research activities. All universities share these common core foci, although the mixture of provision, capability and capacity may be different within the sector and within geographical areas. For example some universities will pride themselves on their research outputs, other universities will focus on their pedagogic output whilst others will give greater emphasis on civic engagement and local anchor roles. But in essence the core business of recruiting and retaining students and ensuring they have the skills and knowledge to play a fundamental and important role in the development of society remains a constant leadership challenge.

There are a number of problems to overcome, from the demographics in the UK with the fall in birth rate now coming through to the applicant age groups, the failure of past government policies to take into account funding for second degrees and postgraduate students and the disarray in the Further Education sector which has increased pressure on the University sector to take on what was traditionally Further Education provision. To compound the issues into a wicked problem, the UK Government's ambiguity towards migration to date continue to inhibit full marketing and branding of the University sector as open, globally welcoming and world class.

Retaining the focus on core business in such a turbulent period has been made more challenging due to an emphasis, which is particular to the UK, of perceiving every activity and every innovation from an economic reductionist perspective. This means that the UK sector has increasingly been over-burdened with the bureaucracy of returns and regulatory requirements. A quick scan of the university sector literature, particularly sector media outlets, will quickly give the impression that many academics hold the view that university leadership prioritise increased administrative burdens, put less emphasis on subject specialisms and play a constant game of league table positioning. The reality is that the vast majority of university leaders come from an academic background themselves and are compelled to bring their institutions within new and constantly increasingly regulatory requirements even though they realise this pushes up the administrative burden. The entrepreneurial leadership challenge therefore is to carry the external regulatory burden whilst continuing to retain the confidence and support of university academics who sometimes blame their own leaders as though they were responsible for central government imposed regulations.

The reduction in applicant numbers, the competition for funding and the league tables positioning places much more emphasis on today's university leaders to market/brand their organisation. Declining number of applications to the sector means there is constant competition in a confined space to tell the external world about what is special about one's own organisations and why potential applicants should consider studying there. Year on year the university sector's marketing and branding budgets have collectively increased. The university leadership team has to ensure that colleagues understand the need to create a market advantage to boost the number of applicants, the need to recruit, generate income and have the ability for capacity and capability to carry out its mission. It is unfortunately, in many ways, a sign of the modern age that more money must be spent on raising the profile in an increasingly loud and hurried world.

Academics can no longer work within their own teams or even within their own organisations, due to the increasing emphasis from the community and from politicians for universities to be actively engaged in the economic development of their locality. For the entrepreneurial university that means more spin outs, more incubation, more placements in industry and commerce, more links with commercial and industrial partners, more emphasis in the curriculum on the skills required in the employment place and more emphasis on translational research which has immediate benefits for the local population, and nationally, in the quickest time possible. The ivory tower academic was always a myth but nevertheless it is a picture that has influenced the perceptions of many people towards universities and it is a leadership challenge to ensure that their universities provide the most advantageous opportunities for students who study and stay in their locality.

Whilst University leaders face the challenges in managing core business and dealing with external events, there is no getting away from the fact that whilst ensuring high quality student provision, the needs of staff require consistent high quality focus by University leaders. These include ensuring good staff conditions, working environments and allowing people to have the time to be innovative and creative. The leadership team is required to support entrepreneurship in all its guises and therefore has to ensure that staff are fully engaged with issues and have good morale. Inevitably it means that colleagues are, in the very essential sense, comfortable with their pay, conditions and other remunerations. University leaders are beginning to recognise that the demarcation line between research, teaching and entrepreneurial activities are dissolving and disappearing quickly.

Therefore the leadership challenge is increasingly beginning to focus on developing individuals who are very good at research but also able to support or lead high quality pedagogic developments and can develop the creative and commercial outlets that bring in status, income and resources to the University. A good university will have excellent researchers, excellent pedagogic experts and excellent entrepreneurs having the ability to step into other areas where needed and support colleagues.

In summary, the core internal business challenges are ensuring that the university community fully understands and fully engages with raising the profile of the organisation in a hugely competitive environment whilst recruiting and retaining students in a way that engages them and provides the best possible opportunities for their future lives.

### External challenges

Externally the university sector is going through one of the most turbulent periods in recent history. Things never really stand still in the university sector and currently Brexit, the Higher Education and Research Act 2017, migration policies, the Research Excellence Framework process and Prevent are contemporary leadership issues. Leaders have to balance these challenges while retaining the University culture, autonomy and protection of free speech. Planning a strategy that can be entrepreneurial whilst carrying regulatory constraints becomes an obvious area of leadership challenge. The leadership team have to manoeuvre through international relationships and recruitment whilst also balancing the needs of visa controls, dealing with the possible outcomes of the new Act whilst gearing up for the next REF, meeting the apprenticeships agenda, maintaining relationships with collaborators, partners and civic and commercial stakeholders whilst retaining the focus on core business and nurturing financial health.

The entrepreneurial challenges are having a clear strategic vision, and being nimble and fleet of foot in response to an increasingly short-term, changeable political environment and ensuring that quality and data management regulatory requirements are met and overall, ensuring the continuation of the University culture.

Contemporary university leadership teams are keenly aware that universities are not public sector organisations yet the vast majority of universities are also not fully commercial organisations. It is a difficult balance for modern leaders to have strategies that support the organisation to simultaneously behave like public and commercial organisations. Too much emphasis on one or the other will cause a detrimental impact on the university and it is a complex leadership challenge to consistently balance both the anchor and civic aspects of the entrepreneurial university.

## Leadership styles

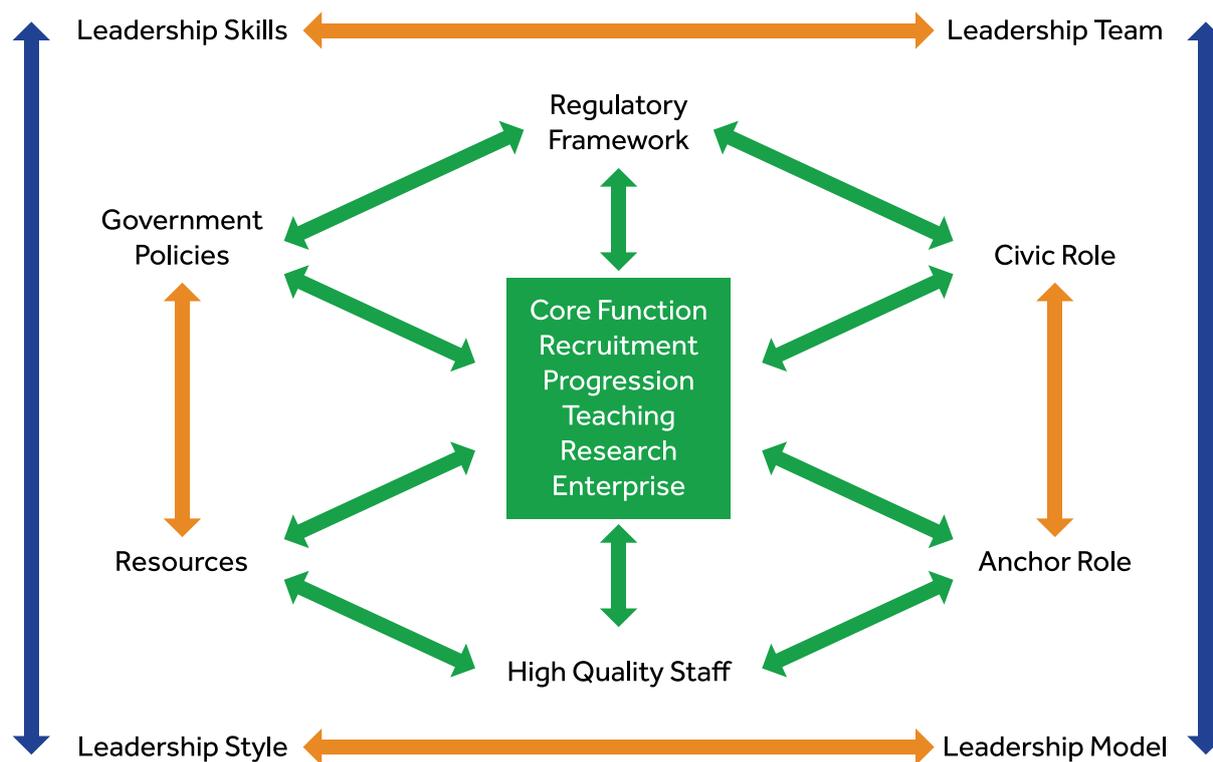
Within the complexity of leading universities and the myriad of different leadership hierarchies, are the issues of style and models of leadership. There have been many leadership models and any swift review of a business school reading list will show examples of heroic, post heroic, charismatic, autocratic, democratic, collaborative, authentic, stewardships and so on. In reality one of the challenges of a university leadership team is to fully understand and accept that different styles and different models are applied in different contexts, sometimes in several different ways on the same day. However the leader must be authentic, must be engaged in the shared values of the academic community and must be passionate in supporting students and staff. Perhaps the nearest that a university leader can get to a decision-making model in a modern sense is through the steward model (a servant, leadership role) or the collaborative leadership approach. It remains a sector challenge for university leaders to disseminate shared values outside of the sector and allow the public to fully engage with its mission and strategy.

Finally a modern challenge is for the leader to put together a high quality, high performing leadership team. There are many applicants for senior leadership posts in academia. Some believe they should be appointed because of their own merits, others because they have served time, others because they feel that promotion is the next logical step in their careers. The appointment of senior colleagues is an issue that leaders often seriously reflect upon. The leader seeks to find someone who is both excellent in their role but fits in well with the chemistry and interpersonal natures of the rest of the senior team and supports the leader in overcoming entrepreneurial challenges. Often too little time is spent ensuring that a good team is put together and too much time is spent on process rather than the quality of the candidates themselves. An excellent team would expect to have a potentially fully functioning life of three years; to keep a highly developed team together for five years is no mean achievement. Putting together a team should take deep thinking and be done in a very calm and orderly manner to ensure the skills and interpersonal aspects come together. The leader's challenge here is to spend more time thinking deeply about who they need around them and how the team works together when they are not around.

## Summary

Leading an entrepreneurial university is challenging (See Figure 1). Retaining its core business and functions whilst responding locally, regionally and globally in an increasingly uncertain and complex external environment is difficult. Yet uncertainty, complexity and facing wicked scenarios provide an environment that requires entrepreneurial responses. Challenges therefore can be viewed as opportunities to develop new ways of working, drive innovation and enhance creativity in the university sector for the benefit of students and staff, the community and the economy.

Figure 1.



Thomas and Gunn (2016)

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Professor Graham Henderson CBE DL

My reflections on the challenges of being a Vice-Chancellor are based upon a 40- year career in higher education, including 26 years in management and over 12 years as Vice-Chancellor of an enterprising post-92 UK university.

My first reflection therefore would be to point out the obvious, namely that Universities are large and increasingly complex organisations to the point where being offered the opportunity to lead a university can initially seem to be a daunting prospect but is invariably one which, in reality, proves not only to be a huge honour but also an exhilarating, varied, hectic and... rarely dull experience. It is not however a role that should be entered into lightly, and as an experienced Vice-Chancellor colleague pointed out to me shortly following my own appointment, in fully embracing the role it can, at times, appear to become more of a 'lifestyle' than a job. Whenever you speak, or act, you are always the Vice Chancellor, even when you are away from your office or the University, and hence you can never afford to 'switch off'; a valid point that is important to recognise, but not one that should constrain your engagement or your enjoyment.

Further, whilst most, though not all, Vice-Chancellors progress to the role of Vice-Chancellor from other roles within the sector, one key challenge is that, unlike most other roles within a University (including most senior management roles), the role of Vice-Chancellor is NOT focussed on managing/leading one principle aspect of the Institution's portfolio (be that a subject area, research, learning and teaching, etc.) It is, at all times, corporate and cross-/extra- institutional with the Vice-Chancellor being the person who must always think of the wider impact of decisions upon all aspects of the university, something that is not always easy and certainly not always popular.

Indeed, in speaking about the role of Chief Executive Officer (CEO) the Kauffman Foundation note:

"The first thing you must do is stop being 'ordinary'. It's natural to want to be one of the guys because you want to be liked.

Your workers however need to respect you as a leader and for the right reasons – specifically, for your values, clarity and vision, and your ability to inspire others to embrace those characteristics ...a leader takes on significant responsibilities and loses certain freedoms. You can't join employee gripe sessions... blame others for problems... because you are now the person who is responsible."

Kauffmann Foundation, *Managing People Through Effective Entrepreneurial Leadership* (03.01/2004)

So, my initial advice to any new Vice-Chancellor would be... not to be fooled by those that tell you it's easy, or make it look easy, but, equally, not to doubt yourself if you do not feel 100% confident in your ability to succeed on day 1, because no one knows if they can do the job till they try, and you really do need to 'grow into the role'.

Further, given the continuous need for a cross-institutional focus, it is also important to recognise that the qualities you will need to display as a Vice -Chancellor (indeed in any senior strategic leadership role) are predominantly about personality, passion, the 'ability to inspire', communication, negotiation skills, etc., and much less about subject based technical ability or academic standing. Indeed, I would stress from my own experience that, to be effective in dealings with staff, students and external stakeholders, senior University leaders must be able to constantly demonstrate BOTH the 'agentic' behaviours normally associated with leadership (such as assertiveness, objectivity, determination and self-confidence) and a range of 'softer' 'communal' behaviours (such as friendliness, sympathy, empathy and compassion).

Turning then to the practical, day-to-day challenges of being a Vice-Chancellor I would offer the following 'observations':

- Remember that many staff will look to you as a barometer of how well the Institution is doing, and how much, if at all, they should be worried about the future. It is therefore essential that you are continually, and openly, confident, positive and optimistic and never guilty of 'miserableness and whingeing';

- Always try and contextualise impending changes in the external environment and government policy in a manner which can both 'demystify' them for the staff and provide reassurance about the institution's ability to respond positively;
- Never lose sight of the pivotal importance of financial sustainability in the eyes of staff, Board/Council members, funders and stakeholders;
- Never under-estimate the critical importance of institutional ethos and culture on institutional resilience and future success. Work hard to develop, and sustain, a positive and supportive culture that will encourage staff and students to want to do everything they can to help the Institution to succeed;
- Ensure that you have access to the robust and timely data that is now absolutely critical to any university leader's ability to manage her/his institution. But remember that a university is a 'people business', and try and retain a careful balance between being 'caring and supportive' and data/target driven;
- Given that so much of what Universities do is measured using common metrics, try not to spend too long worrying about the need to be unique and 'distinctive', and recognise that frequently the best advert for any Institution is simply to be recognised as being 'excellent at what it does' whatever that is;
- Understand that whilst, in an increasingly competitive sector, continually driving change and innovation can seem an attractive way of 'staying ahead of the game' (which it can be), experience would also suggest that 'attempting to do too much, too quickly' can be as bad as 'not being ambitious enough', and initiative overload, leading to 'initiative fatigue' can result in a damaging loss of focus and reduced staff morale. So try and ensure that all supported new developments are accompanied by a strong business case and realistic (and comprehensive) risk assessments;

and, importantly, remember that

During their tenure, all Vice-Chancellors make a number of 'big decisions' for a range of strategically important reasons. To optimise understanding of the importance of those decisions and ensure both widespread 'buy-in' and on-going commitment, it is important to carefully brief key staff and Board/Council members about what you are doing (and why), its strategic significance, the rationale for your approach, and the evidence of its success.

Embracing an entrepreneurial approach however adds another dimension to the challenge facing a Vice-Chancellor and so for those new Vice-Chancellors accepting the challenge of leading an entrepreneurial, or potentially entrepreneurial, university I would recommend they also pay attention to a number of other key 'dimensions' that can contribute towards a successful trajectory for them and their institution which include:

- **Clearly acknowledging the role of enterprise/entrepreneurship within the university's portfolio of activities**

Whilst recognising that business engagement/entrepreneurship can significantly add to the 'local/regional' reputation and recognition of an institution, it will not necessarily automatically enhance its national/international standing... and to derive this wider benefit it will need to be carefully integrated with the university's core 'teaching' and 'research' mission.

- **Foregrounding your institution's entrepreneurial aspiration**

Making clear that you want to do it (...as it's not compulsory!), which is likely to necessitate visible ownership 'from the top', and the adoption of an inclusive approach to 'selling the message' (with consistent reinforcement in your institutional vision, mission and principles) in order to ensure that an entrepreneurial spirit becomes embedded in the institutional DNA.

- **Extending ownership of the entrepreneurial agenda, and ensuring your institution's ability to deliver effectively**

This can be achieved by 'devolving' decision making and autonomy within a structured framework, characterised by structures, policies and processes (including recognition and rewards) that support, and demonstrate the importance of, entrepreneurial activity. It is also important however to facilitate and encourage staff and student engagement with the entrepreneurial agenda, through positive 'enablers' such as: research structures (that support the knowledge exchange/business engagement agenda); strong planning systems for business facing units (with robust pricing/costing and rewards structures and 'private sector-like' Performance Indicators (PIs)); and strong, properly resourced staff and leadership development across this aspect of the university's work.

- **Connecting with the relevant business sector**

Entrepreneurial universities need to be visible to business, actively engaged, clear about 'the offer', focussed on providing responsive and flexible 'client focussed solutions' (not just selling off-the-shelf 'products') and committed to developing long term strategic partnerships (not short term transactional engagements). This is most often best achieved by recognising (and encouraging prospective business partners to recognise) that continuing professional development (CPD), consultancy, applied research, and knowledge exchange are all parts of an interacting continuum of activity to which the university can make a series of positive, and value added, interventions over the life of a partnership.

- **Empathetic governance**

Characterised by Board/Council members that empathise with the entrepreneurial vision, and having in place the open processes of communication that allow you to build trust, celebrate success and be honest about those failures which may, from time to time, go hand in hand with a risk-based entrepreneurial approach.

and most importantly...

Making sure you do it well, and do it in the way, and to the standards recognised and expected, by the business community.

which implies:

- Having a professional 'business like' interface;
- Being client focussed, flexible and responsive, and having empathy with their context;
- Being accessible and not overly disruptive to the client's business; and
- Delivering what you say you will deliver and demonstrating delivery of 'bottom line value added'

A lot to think about!

But Vice-Chancellors also need to be cognisant of the personal influence that they can have on this activity, and my observation and experience suggests that an institution's likelihood of success in this, and indeed in most other areas of activity, will be greatly enhanced by the Vice-Chancellor:

- Keeping herself/himself well informed, and alive to opportunities and local/regional priorities, and sharing anything that is not confidential with anyone that can utilise the information to positive effect;
- Consulting widely, being prepared to back other peoples' ideas, and openly sharing key decisions, and the rationale for those decisions, with the University community; and
- Continually reinforcing the fact that if people want you, or the institution, to be entrepreneurial, that...
  - a. not everything will succeed, and there will be some (relative) failures; and
  - b. even successful innovations will take time to come to fruition.

And, always remember that, Vice-Chancellors come in all shapes and sizes, and whilst you will of course need to continue with your personal development, your best chance of success is almost certainly by just 'being you'! So feel comfortable with your origins and try not to lose touch with who you are or where you've come from, as that is the bedrock upon which you were selected for the role.

Like all new leaders, you will probably feel under pressure from all sides to demonstrate you are making an 'impact' by introducing significant changes in strategic direction, but take care not to become obsessed about your '1st 100 days.' Remember, you have the job for a long time, and don't feel under pressure to impress in the first few weeks. So, take the time to listen, let things 'wash over you', and reflect on what is already in place, because hasty, ill-informed change can be unhelpful and damaging and will rarely deliver positive long term benefit.

And finally, when facing the challenge of the role of Vice-Chancellor remember to keep in the forefront of your mind the need to:

- Communicate, communicate, communicate "if information is power", you will have all the power you need, so don't feel the need to keep information to yourself;
- Be positive and optimistic. It's important to those around you;
- Always try and anticipate what might be coming your way... then plan to deal with it. Because as someone once said, "Worrying works – 99% of the things you worry about will never happen" (because you take steps to make sure that they don't!); and
- Never forget that you are ultimately accountable. So only do what you are prepared to be held accountable for and never forget that delegation doesn't relieve you of that accountability!

**But most of all.... enjoy it!** It is an honour, a privilege and an opportunity that most people will never be fortunate enough to experience.

### Introducing the entrepreneurial leader

Searching the web for the term “entrepreneurial leader” brought just under half a million hits, many identifying the characteristics of the entrepreneurial leader. Rather like those adverts identifying key points of shampoo or beauty products, different studies and pundits offer various numerical lists such as Forbes 5 Essential Characteristics and the 6 Habits of Effective Entrepreneurial Leadership.

The views of what makes an entrepreneurial leader online generally range from 3 -15 different attributes or characteristics but however many characteristics or habits are involved though, entrepreneurial leadership is generally seen as ‘A Good Thing’ with shared views of its activities internationally (Gupta et al, 2004) and advocated for both non-profit and for-profit organisations as a route to competitive advantage (Ruvio et al., 2010). This is because entrepreneurial leaders “foster the process of organisational innovation by recognising and exploiting new opportunities” thereby improving organisational performance, “by solving problems creatively and using resources effectively” (Pihie, and Bagheri, 2013, 1033; Gupta et al., 2004).

Further, entrepreneurial leaders are better able to deal with the “challenges and crises of leadership task performances in the current turbulent organisation environments.” (op. cit. 1033; Vecchio, 2003; ii Gupta et al., 2004; Surie and Ashley 2008). Given consistent government focus on higher education and the changing roles, aims and targets for universities in the UK and overseas, entrepreneurial leadership might therefore be essential.

### Defining the entrepreneurial leader; by their deeds shall ye know them

So what is an entrepreneurial leader? Despite the number of Google hits signaling that this term has transferred into common use, research-based definitions are less evident than might be expected. Definitions tend to focus on actions – on what the entrepreneurial leader does rather than what he or she is. Thus Renko et al (2005) include ways in which the entrepreneurial leader can influence and direct the performance of individuals and group members so that organisational goals are achieved, by them recognising and exploiting entrepreneurial opportunities.

In terms of actions, entrepreneurial leaders set clear goals, create opportunities and empower people, (Cunningham and Lischeron, 1991). Jones and Crompton (2009) summarise Gupta et al. (2004) in suggesting that entrepreneurial leadership combines leadership with;

- entrepreneurship (Schumpeter, 1934);
- entrepreneurial orientation (Covin and Slevin, 1988); and
- entrepreneurial management (Stevenson, 1986).

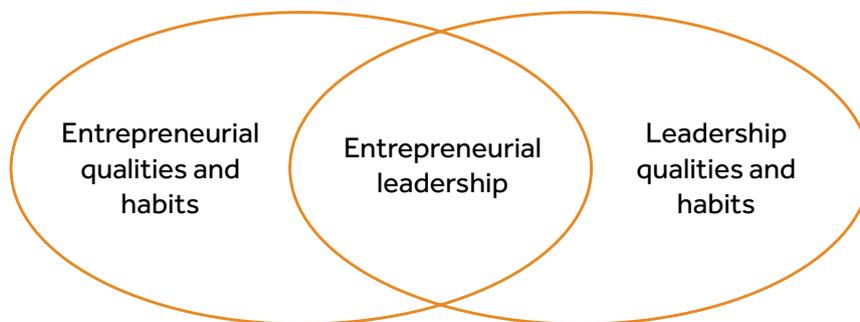
This focus on action is perhaps understandable. It is common to see both the entrepreneur Leitch et al, (2012) and the leader (Renko et al, 2015, 54) as someone defined by what they do. By bringing together Entrepreneurship and Leadership we emphasise not only the influential side of leadership but also the discovery approach to opportunity recognition and the confidence with risk attributed to Entrepreneurship. They seek and find opportunities and know how to make them happen by inspiring others. So entrepreneurial leaders not only “recognize opportunities where others see chaos, contradiction, or confusion” (Kuratko, 2007, 2) but enact these opportunities through influence, due to their relationships with followers, both internal and external to the organisation, and to their ability to shape and share a vision for the organisation that inspires others to make it happen (Yukl, 2010; Surie and Ashley 2008; Gupta et al, 2004).

To achieve this, Pihie, and Bagheri, (2013, 1034) suggest that entrepreneurial leaders possess:

- “high capacities to develop innovative ideas;
- propensity to explore new opportunities;
- tendency to implement the new ideas to improve the performance of the organization, the ability to face the challenges; and
- the competence to influence people to be innovative.”

Further, Thornberry (2006) suggests that the entrepreneurial leader also needs to have passion, vision, focus, and the ability to inspire others identified in definitions of leadership together with the mindset and skills to perceive and enact new business opportunities to reach organisational goals (see Figure 1). In doing so they are also central to organisational strategy and to successful organisational change to bring competitive advantage (Taylor, 2017; Ireland et al. 2003). This may be because they not only have followers who carry out activities to achieve their leader’s shared vision but they also encourage others to act in the same way; they are role models (Renko et al, 2015). This empowerment of others to become entrepreneurial within their own roles is a characteristic of entrepreneurial leadership both in small firms and in larger organisations.

Figure 1. The Simple Approach



### How does this relate to university management?

Many of these ideas, however, arise from studies of private sector growth, particularly in smaller firms. How do these really translate into practice in the public sector? Despite policy rhetoric identifying the need for universities to be entrepreneurial (CST, 2016; HEFCE, 2009) problems have been experienced by institutions adopting an entrepreneurial culture (Slaughter and Leslie, 1997; Rinne & Koivulam 2005; Martin and Turner, 2010; Martin et al, 2018).

On a macro level, difficulties arise from entrenched institutional values expressed in the “collegial, professional and bureaucratic” nature of universities (Hay et al. 2002; 140). Martin et al (2017) further suggest that universities are “heterogeneous organisations, with complexity built into their structures, routines and processes. This complexity arises from their historical development, their original aims (teaching, ‘pure’ research etc), what has been described as increased command and control bureaucracy and the interplay of traditional academic autonomy with more corporate cultures”. This is transferred to the micro-level where, “organisational structure, context, and culture ... may simultaneously support and hinder faculty entrepreneurs in a variety of direct and indirect ways.” Fieldmann, (2015, 272).

Despite this, in the USA Leih and Teece (2016) suggest entrepreneurial leadership as a reason for Stanford’s advancement in relation to Berkeley University. They see entrepreneurial leadership in the university context, as shown by those who combine strategic thinking and capabilities development, to grow an innovation ecosystem. In this way, they suggest the likelihood of a university’s competitive fitness and long-term survival will be enhanced and in turn this will increase the chances of their institutions continuing to prosper in an increasingly competitive environment characterised by uncertainty and change.

If you want to be an entrepreneurial leader, then, you need to be a transformational leader who has the ability to discover new opportunities and to inspire and lead others to deliver these. So in assessing your own profile, are you able to identify your capacities to seek new opportunities and to develop innovative ideas? Are you also able to implement these new ideas so that your university's performance is improved and it is better able to face challenges? Within your sphere of influence and beyond are you able to inspire and enable other people to be innovative so that you can support the growth of the innovative ecosystem felt to be so characteristic of Stanford University? As if this did not present enough of a challenge the next step is to consider the impacts of context to the mix.

### The challenge for you

Given these potential issues in the university culture and structures mentioned above together with the simultaneous potential benefits of entrepreneurial leadership and the policy focus on transformational change, innovation, empowerment and risk taking, the questions posed for you are:

1. Is it possible to be an entrepreneurial leader within a university?
2. Is it possible for you to be an entrepreneurial leader within your university?

Similar questions, but while the first queries the nature of universities and their ability to nurture innovation and change, the second requires two things of you. Firstly, do you have the mindset and characteristics essential to be an entrepreneurial leader? Secondly, is the organisational context right, in terms of your institution and its community, to allow you to be an entrepreneurial leader and to flourish as you meet challenge with innovation?

Reviewing the first question, recent research within 15 UK universities showed that there was a dual reality for entrepreneurial behaviours within the institution. While the senior management team and related documents (annual plans, reports, websites etc.) emphasised that this was an entrepreneurial university and that enterprise and innovation were important, the reality experienced within the university might be very different.

"There are times when you feel you are in some sort of quarantine in case other people catch what it is you've got." **Head of Innovation, commenting on the marginalisation of more enterprising staff.**

"Universities deal with challenges by setting up committees... we have 3 new committees and 11 more staff in this area now across the university but activity has actually decreased. All of this is to show the semblance of doing things while avoiding it in practice."

**(Business Development Coordinator)**

Moving onto the second question, how likely is it that entrepreneurial leadership will be welcomed by colleagues and will it fit within the structures and processes embedded in how things work around here? Is there a 'reality gap' in your institution between what is said to be important and the ways things really work? This may be very embedded in university power structures. One example given by participants in the same research was the attention given to activities and the relative status of those engaged in it. In one institution, the Senior Management Team (SMT) member with responsibility for enterprise was effectively a side-lined middle manager who was seen as having no power or influence (Martin et al, 2018).

Others described how the person who should be championing their cause at senior management level was 'managed' by the rest of the SMT, i.e., so that their power and influence was limited. The manager in question further exacerbated this by not acknowledging this, so he or she kept making promises that could not be kept. The lack of status that accompanied this side lining of their senior manager was also interpreted by others in their organisation and used to their disadvantage. Just as they felt the Deans had picked up on their senior manager's relative unimportance in organisational politics, so others in the faculty perceived the process in the same way and mimicked this response. Deans did not meet with them and did not place a high priority on their requests so when meetings were arranged with Deans and associate Deans, these were

often attended by others seen by participants as 'lower in the pecking order' and in some cases, postponed, cancelled, or ignored.

Where the senior manager was perceived by participants as having power, then he or she was also seen as being able to act effectively. He or she could exert power to influence other SMT members and other managers and in so doing raised and established the internal importance of their activities. Their senior manager had sometimes had to 'fight their corner' for organisational resources to ensure that physical or human resources were gained and that business engagement was seen as an activity for every school or faculty to consider.

So in answering question 2, the first step might be to identify the space to be entrepreneurial and to demonstrate entrepreneurial leadership in your institution. How much room is there for you to demonstrate these qualities and if the room is limited, how can you challenge those setting boundaries? How does the university deal with challenge and change - and how does the management structure embrace challenge?

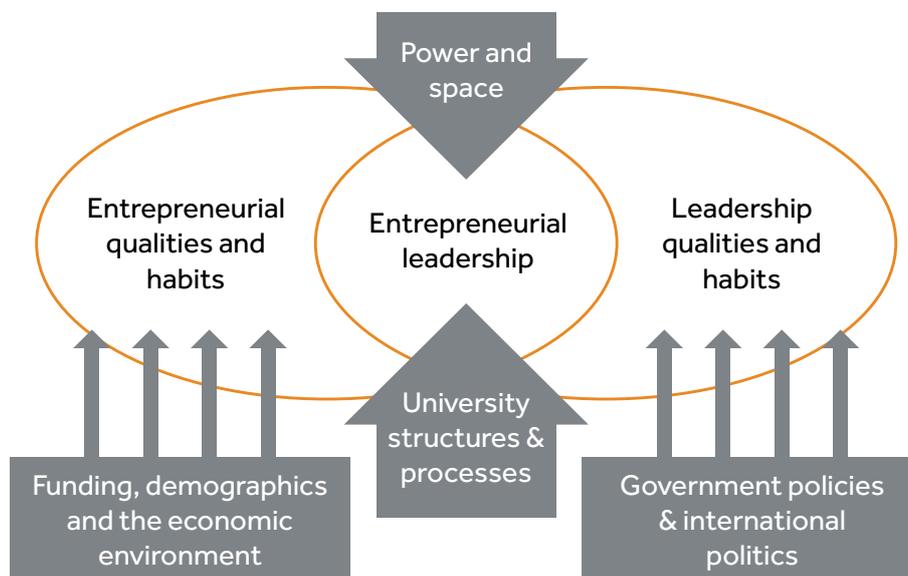
Looking at the literature on corporate entrepreneurial leadership, this focuses on the need to develop internal and external alliances in order to make things happen. Recognising that the power structures within an organisation can help or hinder, and seeking ways to deal with these effectively to help the organisation grow is a characteristic of this approach. Both of these are valid and important in achieving effective entrepreneurial leadership with careful targeting of relevant links and appropriate influence.

### Final thoughts

Again then, looking at your current context, have you the right internal and external alliances to support the actions you would like to take? The personal approach is summarised in Figure 1 with entrepreneurial leadership a simple crossover of characteristics. Figure 2 though captures some of the complexity of leading within a university at this time. There are many factors potentially suppressing entrepreneurial leadership but the issue for you is to capture your own perspective and profile using these figures. How would your profile look if you plotted your own entrepreneurial leadership? Generate a version that helps you to understand your own profile and how large or small various aspects are, to identify where the pressures are for you and to look at how you can achieve your goals for your department and your organisation.

And given the need to inspire others, how would their profile look, especially in terms of Figure 2. Have your team got the space and the power to carry out your vision and to make any opportunities you find a reality? Over to you!

Figure 2. The university environment for entrepreneurial leadership



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## Challenges and opportunities in higher education: a longer timeframe

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Taking a long-term view could be considered a luxury in a world typically dictated by 5- or 10-year planning cycles. The EU referendum outcome in the UK and the US presidential election have shown how dramatic changes to the political landscape can take place in 12 months, but there is still a case to be made for long-term planning in parallel to shorter strategic cycles. A 20-year horizon might help to put individual shocks in perspective, but it could also uncover trends, possible scenarios and threats to business models missing from a 5-year strategy.

The Higher Education and Research Act, 2017 captures many of the forces that may shape higher education in the next decade, in particular a focus on student experience and the marketisation of higher education. The transfer of higher education from the department for business to the department for education hints at broader governmental policy shifts towards the integration of primary, secondary and tertiary education. More widely, a focus on skills, partnerships between higher education providers and employers, and emphasis on lifelong learning is likely to continue to shape higher education in the next decade.

However, this article examines the broader, external drivers that are likely to impact higher education. There are five potentially significant drivers of change that will shape the university of the future: demographic shifts, planetary changes, political developments, economic transformations and technological impact.

University leaders may wish to view these drivers through two key lenses:

1. The drivers are likely to lead to fundamental societal changes and the emergence of new challenges and opportunities, and universities may wish to – or be called upon to – respond through the production of new knowledge and increased engagement as economic and social actors
2. Each driver will potentially impact upon the university business model, either through changing demand for higher education, increased economic volatility and shocks, or changes in work and employment.

The entrepreneurial university, adaptable in the face of change and aware of developing trends, will be well placed to thrive as an institution and continue to play an important social, cultural and economic role into the future.

### 1. Demographic shifts

Shifts in demographics affect the pipeline of future students, but also opportunities to adapt higher education provision to changes in the makeup of the population. An aging population that requires updated skills throughout a longer career may call for a tailored education and skills offer.

The number of people in the UK aged 18 to 20 is decreasing, a trend that is projected to continue until around 2021. In the two decades to 2034 the UK faces an ageing population, decreasing the economically active percentage of the population. An ageing population increases the need for employees and therefore graduates in the care sector, from managers of nursing homes and health professionals to lower-skilled care workers.

Looking more widely, the global population is predicted to increase from 7.4 billion in 2015 to 8.5 billion by 2030 and 9.7 billion by 2050. A geographic shift will also take place: by 2050 more than half the world's population will live in Africa, and simultaneously a shift in the balance of age, with global parity between the number of children and seniors by 2050.

Given these changes, two factors should be borne in mind. First, constraints imposed by visa regimes or limits on mobility for inward students, and the challenges of effective branch campuses and transnational education for distance delivery. Second, cultural considerations: do the parents or the students in a given country fund study, and make the decision on the study destination? Are there preferred models of higher education, or preferred international dimensions? A bulge in the 18-21 year old population with disposable income in a country does not automatically translate into more international students, especially if Brexit or protectionism taints the image of the UK.

Additional factors to consider include the changing size of the middle class in each country, and national/regional investment in higher education and consequent competition between domestic universities and those in the UK. Rapid urbanisation in many countries will also increase proximity and exposure to universities.

## 2. Political developments

The proliferation of 'emerging power' acronyms – from BRIC to BRICS to MINT to TICK – suggest uncertainty in the global balance of power. Uncertainty affects the giants too. Commentators such as Joseph Nye suggest that 'even if the US continues to possess more military, economic and soft power resources than any other country, it may choose not to use those resources to provide public goods for the international system at large'. And China is financially fragile, with debt as percentage of GDP climbing from 152% in 2008 to 254% in 2016.

Urbanisation is concentrating more people globally in cities. It is in turn increasing the power of cities themselves. In the UK – itself far more fiscally centralised than many continental counterparts – the government's devolution agenda aims to increase the responsibilities and decision making powers of city regions. Many UK cities now have City Deals, transferring responsibilities from central government. By the time of going to print, new combined authority mayors will have been elected in six devolution deal regions across England.

The mayor will represent their regions across the country and around the world. Are the new tranche of mayors a revolution in locally-led development and an essential new partner in the regional engagement activity of universities, or a centrally-imposed level of bureaucracy with little relevance for local communities?

Meanwhile, the unravelling and reconstitution of legal, economic, trade and cultural ties with the UK's continental counterparts is likely to remain a constant in the next decade. It is worth examining in parallel the future of the EU, which will continue to shape the UK's future. The European Commission presented a White Paper on the Future of Europe in March 2017, presenting five scenarios on how the Union could evolve by 2025:

1. Carrying On
2. Nothing but the Single Market
3. Those Who Want More Do More
4. Doing Less More Efficiently
5. Doing Much More Together.

The outcome of national elections in member states may eliminate certain scenarios. Different scenarios necessitate different levels of opportunity and challenge for the UK higher education sector looking to engage.

Closer to home, the nature and features of a UK-wide vs. devolved higher education system are under scrutiny given potential structural changes amongst the four nations. As is the case for the regions of England, the four UK nations are on a trajectory for greater legal and policy divergence

## 3. Economic transformations

Around 35% of current jobs in the UK are at high risk of computerisation over the next 20 years, according to researchers at Oxford University and Deloitte. Creative jobs are considered to be more resistant to

automation. Significant changes have already taken place over the past 15 years, with net job growth in professional and management occupations and other skilled jobs considered to be at low risk of automation. Job losses have been experienced in factory work and other areas at high risk of automation. We can expect these changes to continue. However, the researchers conclude that over the past 15 years, automation has created four times as many jobs as it has destroyed.

Automation is just one force shaping the future world of work. Another is the growth of self-employment. According to the RSA, self-employment has been responsible for nearly half (44 percent) of all jobs growth in the UK since 2008, including after the financial crisis.

Changing employment patterns, coupled with demographic change, is likely to lead to an increased emphasis on lifelong learning. Geoff Mulgan, head of innovation foundation Nesta, predicts that '...hundreds of millions of adults will have to learn new skills, from handling digital technologies to more human skills like how to collaborate, communicate or create. As that reality dawns, attention will turn to adult education and retraining'.

To add an extra layer of complexity, inequality is predicted to increase. As the RSA's Inclusive Growth Commission has noted, the UK's per capita GDP is amongst the richest third of EU countries, but disposable household income per resident in over half of the UK sub-regions is below the EU average. Forecasts by the Fabian Society predict high incomes in the UK will rise 11 times faster than low incomes in the period to 2030, with a 22 per cent increase for households at the 90th percentile, compared to 2 per cent for those at the 10th percentile.

#### 4. Planetary changes

Climate change, threats to food security, resource scarcity and global health challenges are on the agenda of leaders, researchers and policymakers looking to the next decade and beyond. They also present potential challenges to the business model of universities, and pose the question of the university role in tackling 'grand challenges'.

Notoriously difficult to frame, intangible, denied by some – climate change is slowly beginning to manifest in daily life. Forecasts make sobering reading. The increase in the number of poor is likely to be largest in sub-Saharan Africa, partly because its population is more reliant on agriculture. Many of these countries are projected sources of future international students, and fast-growing economies. Nicholas Stern, an economist and expert on climate change, has argued that it would cost about 1 percent of global GDP (600 billion dollars) now to prevent a loss of 5 percent of global GDP in the future.

The UK is responsible for only 2 percent of global emissions, whereas China, already the world's largest emitter despite a low level of per capita emissions, plans to peak carbon dioxide emissions around 2030. Some have argued that unless China alters its trajectory, what the rest of the world does is irrelevant. However, advances in technology may reduce carbon intensity, in particular the amount of emissions needed to generate a given amount of growth. Related concerns, such as the perception of unequal access to clean water, will be a serious potential trigger of conflict and instability.

The impact of climate change may shape university business models; at the same time universities may be part of technological, behavioural and policy components of a solution.

Health challenges may also directly and indirectly shape universities and their work. The burden of disease is shifting to non-infectious diseases, bringing new challenges and costs to health systems worldwide. Aging populations, long-term conditions, growing multimorbidity (the presence of two or more chronic medical conditions in an individual) and increasing costs of new health technology add to the economic burden. Complicating a bleak outlook is the spectre of growing antimicrobial resistance, which already claims at least 50,000 lives each year across Europe and the US alone.

The makeup of health provision is also changing. Mental health and wellbeing is growing in stature, and is being taken seriously by many UK universities alongside 'traditional' provision.

## 5. Technological impact

According to the World Economic Forum's Global Risks Report 2017, 'evidence suggests that technological change provides a better explanation than globalisation for the industrial decline and deteriorating labour-market prospects that have catalysed anti-establishment voting in many of the world's advanced economies'.

Table 1 shows the evolution of educational technology, with the authors suggesting that we are entering generation 4, and a shift towards adaptive learning and distributed infrastructures. In addition, developments in virtual and augmented reality may inform teaching and learning in the future.

Table 1: The evolution of educational technology

Generation 1	Basic technology use: Computer-based Training (CBT) and websites
Generation 2	Enterprise systems: learning management systems (LMS) and content management systems (CMS)
Generation 3	Fragmentation and diversification: social media, e-portfolio software and MOOC providers, integrated vendor/publishers
Generation 4	Distributed and digitally shaped technologies: adaptive learning, distributed infrastructures, and competency models

Source: Future technology infrastructures for learning, George Siemens, Dragan Gašević and Shane Dawson, in *Preparing for the digital university* (2015).

Artificial intelligence is also shaping education delivery. According to the Pearson/UCL Knowledge Lab report *Intelligence Unleashed*, artificial intelligence can already provide intelligent personal tutors for learners, support for collaborative learning and expert facilitation in groupwork. In the future, artificial intelligence will support a 'renaissance in assessment' of work, and will provide us with lifelong learning partners. However, concerns have been raised over artificial intelligence safety, and the huge positive and negative impacts of so-called 'superintelligent' artificial intelligence.

Universities are also beginning to understand the potential of analytics in higher education to personalise the student journey. Universities already collect vast amounts of data, charting students' footprints as they progress through their studies and extra-curricular lives. These datasets are rich and growing, and technological and methodological leaps mean that collection and analysis is easier than ever. Analytical tools offer more than improved effectiveness in teaching and learning: they can also be used to enhance efficiency and demonstrate value.

A logical progression is the development of the smart campus, helping in turn to develop the smart city. Local government and city leaders may be keen to test the concept of, and technologies within, a smart city by supporting the development of a smart campus. By seeing campuses as 'cities in microcosm' the development of smart infrastructure can lead to closer working between universities and local leaders.

Risks associated with technological advances need to be managed and need resources, including data protection and cyber security. High-profile hacking incidents (targeting in particular large businesses) are on the rise. As the Internet of Things encroaches onto university campuses, the risks intensify.

### Shaping versus responding

Longer-term forces may shape the future business model of universities. They require entrepreneurial responses, but also an entrepreneurial mindset and attitude to adaptation. Universities can help provide the stage for society to tackle some of the most challenging future problems. A proactive approach to addressing – for example – automation, or lifelong learning, or devolution, may allow universities to shape the future rather than merely respond to it.

### The entrepreneurial organisation

What is an entrepreneurial university - or more in general what is an entrepreneurial organisation?

Organisational entrepreneurship is a behavioural phenomenon. Similar to a person that behaves in a certain way (a person can behave kindly, aggressively, empathically etc.) an organisation can behave in certain ways. All organisations fall along a conceptual continuum that ranges from highly conservative to highly entrepreneurial. Entrepreneurial firms can be discerned from conservative firms on five dimensions as to the extent to which their behaviour is (1) innovative, (2) proactive, (3) competitive aggressive, (4) risk taking and (5) allow their organisation members significant autonomy (Lumpkin and Dess, 1996).

I will briefly describe these five dimensions as follows:

**Innovativeness** reflects an organisation's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes.

**Proactiveness** refers to processes aimed at anticipating and acting on future needs by seeking new opportunities that may or may not be related to the present line of operations, introducing of new products and brands ahead of competition, strategically eliminating operations that are in the mature or declining stages of life cycle. In other words it refers to proactive shaping of new demand in contrast to competitive aggressiveness, which is how organisations react to competitive trends, and demands that already exist in the marketplace, competing for existing demand.

**Risk taking** refers to the degree to which the organisation is willing to make large and risky resource commitments - i.e. those that have a reasonable chance of costly failures.

**Autonomy** refers to the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion. In an organisational context it refers to action taken free of stifling organisational constraints (Lumpkin and Dess, 1996).

For each dimension management can devise a specific course of action to stimulate and enforce the entrepreneurial orientation of the whole of the organisation. One can think of intrapreneurship idea challenges to generate more innovative ideas (**innovativeness**) and funnel them through a process bypassing standard procedures (**autonomy**) for careful selection and nurturing for the best innovative ideas to find support. Specific venturing funds could be separated from the regular budgets to invest in highly uncertain experiments improving the risk-taking dimension. And so on.

However, one dimension needs more attention than all the others. How does one improve the proactiveness of an organisation? What processes can management introduce aimed at anticipating and acting on future needs by seeking new opportunities that may or may not be related to the present line of operations?

This boils down to the question: What will the future look like? It is a matter of excelling at making interpretations of plausible future environments. More specifically operating in a world with an environment characterised by its volatility, uncertainty, complexity and ambiguity (a *vuca* environment), how does one create a proactive future oriented organisation? As we will see in the next sections, strategic scenario thinking as a state-of-the-art management method is a key element in this creative and imaginative interpretation process: it creates clarity in an unclear situation.

### The future oriented organisation

The most commonly used method to understand what might happen in the future is the study of the past. In this way, we hope to predict the future. The most frequently used methods for forecasting, estimating or predicting are nearly all based on this principle of extrapolation: calculating future revenues; estimating the evolution of student enrolment or commodity prices; preparing budgets; estimating next year's GDP;

estimating economic growth rates. All the macro-economic and socio-demographic data used for the national budgeting process take historical data collection as their starting-point. Whichever way you look at it, it is difficult to avoid the conclusion that by using these methods the future is assumed to be fundamentally nothing more than a continuation of the past. At most, there are some minor adjustments: a slightly more optimistic or pessimistic prediction, or something of that nature. Yet for governments, universities, companies and many international organisations, these extrapolations are often the basis for multi-million dollar investment decisions and for important future strategy and policy options.

Taking strategic decisions always involves the future. And as we all know (or should know), you cannot predict the future by extrapolating the past - otherwise we would all be millionaires by now! In other words, the extrapolation method has some serious limitations.

The problem, however, lies mainly in the limitations of our own cognitive ability to learn. This is because our view of all possible alternatives or options for the future is limited by what we know from the past. This is a major problem in a world increasingly characterized by these discontinuities, rapid change, growing complexity and uncertainty.

It is even worse when these so-called 'forecasts' receive official sanction from the organisation's senior management. By approving and explicitly communicating budgets and figures in this way, managers are effectively discouraging other people within the organisation from trying to identify emerging forces, never mind actively detecting discontinuities that fall outside scope of this 'official future'. The bosses have already dictated how things are going to be - so why should anyone waste further energy on the matter? The result is that the organisation is repeatedly surprised by discontinuous events. This increases the likelihood that major strategic opportunities will be missed. New strategic moves are especially important in times of discontinuity. Important strategic opportunities always arise when there are discontinuities. At such moments, strategy can really make the difference for those who are able to recognise the discontinuities in good time and are prepared to (re) act accordingly.

Another disadvantage of a single 'official future' is that debates about the future within these organisations tend to hide the risks instead of actively bringing them to light. The assumptions and prejudices on which the models, projections, forecasts and even the figures were built are quickly forgotten. This is disastrous in a world that is rapidly changing. It imposes a number of restrictions with important implications for strategy and policy. In particular, it restricts 'learning' from the bottom to the top of the organisation. We all know organisations of this kind, which respond with painful slowness to changes in the environment. Futures thinking circumvents these restrictions. The scenario method is one of the more prominent futures thinking methods and consists of the description of plausible alternative future environments for a specific part of the future. Scenarios are developed and investigated methodologically in groups of two, three, four or more different coherent futures. They are used to study the impact of these different futures on organisations or the decisions of organisations.

The scenario method shifts the focus of leadership from a preoccupation with internal matters to the external environment, where most of the changes in the future will occur!

Moreover, futures thinking teaches people to think further than the implicit assumptions tacitly imposed by the past and to move beyond the restrictions sanctioned by the 'official future'. But to be effective, scenarios must also influence the mental images of the decision-makers about existing realities. If it fails to do this, the cause is lost.

In addition, the scenario method, based on the principles of systems thinking, has another significant advantage in comparison with the more commonly used methods of extrapolation: extrapolations limit themselves to rigorous projections relating to certain specific elements and figures; the scenario method essentially looks at the overall picture, at combinations and global interdependencies. It also aims to understand and interpret systems, not simply take snapshots of isolated elements.

Will real estate prices in some states of the U.S. rise or fall? A projection, no matter how sophisticated the model, will bring little understanding if that model does not take account of the system of subprime loans

to customers who are barely solvent, the resale of these loans in repackaged debt claims, the global interdependence of banks and the out-of-control dependence on the major players in the interbank markets. Beautiful models often conceal these risks rather than bringing them to the surface. In complex systems, systems thinking can offer deeper insights by looking at the global picture, instead of an isolated and extremely precise projection of one particular aspect.

By exploring a set of different scenarios and not just a single ideal scenario (because this would be a prediction), managers and university policy-makers will see and understand more easily that the contextual environment is beyond their area of influence and control. This realisation - that they cannot influence the environment directly - is essential as a preparation for a cooperative process that will lower turbulence for all its participants.

We make an analogy with an iceberg (Senge, 1990). We see the world as we know it from television, from the **talking heads** or the **ticker tape** of the stock market and from the newspapers. This is the relatively small part of the iceberg that is above sea level. But we pay hardly any attention to the underlying systems and interdependencies that have led to certain events. In these circumstances, there is a danger that we will only respond to events in a **defensive** or **reactive** way. Just as we do, for example, if we only see extrapolated budgets or student enrolment figures or the macro-projections that economists from economic and policy analysis departments continue to deliver to governments. As long as we prevent ourselves from trying to understand things as a system, we will not be able to work proactively. Instead, we will always be reactive - and therefore too late to do any good.

It is only when we dig deeper, without limiting ourselves by what we know from the past; it is only when we look at the big picture painted by systems, relationships and interdependencies; it is only then that we will learn more and obtain better insights about the future. It is only then that we will start to recognise **patterns** and will be able to identify significant **trends**. But the key to truly understanding the future lies hidden even deeper beneath the surface: it lies in understanding the **system structure**, in understanding the **causality** of the **relationships** and in understanding their interaction and effects. This requires attention to the interpretation process, which we call **sense making**. It is the only meaningful way to look at a possible impact of the future. It is the only way we can work proactively, allowing us to form opinions and develop options for discontinuous events. The scenario-based method creates a forum in which decision-makers can explore and test the impact of different (driving) forces and their combined effects.

It is not essential (or even possible) for scenarios developed in this way to perfectly match what will actually happen in reality in the future. Scenarios are neither predictions nor forecasts! Nevertheless, thinking in a structural way about the future and going through the process of futures thinking increases the flexibility of strategic leaders and policy-makers at all levels. It is not so much the outcome of the strategic scenarios that is important, but rather the process of thinking and debating that the development of these scenarios entails. We must learn with and from the future.

In this way, futures thinking about the 'unthinkable' induces a positive behavioural change that promotes a proactive learning culture.

### How do we increase pro-activeness in a turbulent environment?

So, how do we prepare our universities and institutions for this uncertain and turbulent future? Where and how do we bring the future inside the organisation? How do we increase pro-activeness in a turbulent environment? How to orient the organisation more towards the future? Where and when do you organise for informed strategic conversations on the future environment of your institution? Where do you develop strategic visions on the plausible future environment of your organisation? How do you monitor the context by identifying signals for change? Where and how do you make sense of these signals as to make things clear and enable us to create options and take positions before others do?

## A suggestion for the future

To increase the future orientation of an institution one can install a new committee that we call the futures committee. The responsibilities of this new futures committee will include: (1) initiating strategic debates, (2) provide a sounding board for top management's strategy, (3) initiating projects and processes on sense making, (4) testing, assessing and investigating the robustness of strategic investments, (5) installing discovery-driven planning, and (6) installing a warning system. It sounds simple? Perhaps, but it isn't - otherwise it would be too easy to copy and could never create a truly sustainable advantage. In reality, once an institution has mastered strategic conversations through its futures committee, it will be possible to develop into something that very few other organisations have so far been able to achieve: an organisation that is proactive and can adapt to turbulence and rapid change and responds more quickly and more flexibly to opportunities than its peers.

This will be the killer app for the university of the 21st century.

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### Introduction

The Open University (OU) is the UK's largest university, with 170,000 students per year studying its courses. In fact four out of ten part-time undergraduate students in the UK study with the OU. The Knowledge Media Institute (KMi)<sup>1</sup> was set up in 1995 in recognition of the need for The Open University (OU) to be at the forefront of research and development in a convergence of areas that impacted on the OU's very nature: Cognitive and Learning Sciences, Artificial Intelligence and Semantic Technologies, and Multimedia. We chose to call this convergence Knowledge Media.

In this short article two of the technologies that KMi and the OU are currently focusing on are outlined: data technologies and distributed ledgers (including blockchains).

### Data and higher education

Artificial Intelligence (AI) is currently receiving a lot of attention at the moment, especially in relation to the potential threat to jobs. For example, a recent report from the US Obama administration<sup>2</sup> noted that AI could threaten up to 47% of jobs in the US in the next two decades. A report from PwC stated that up to 20% of jobs in the UK could be affected.<sup>3</sup> AI is a broad field. Whenever AI is mentioned in reports such as above however, what is meant is a combination of large data sets coupled with machine learning. Machine learning algorithms are able to learn patterns supporting analysis of what has happened; predictions of what may happen and prescriptions supporting business decision-making.

A report from McKinsey outlined how Open Data and data analytics (the use of machine learning techniques over data) could realise up to \$1.2 trillion worth of value to education in the US alone through five main routes:<sup>4</sup>

1. Improved instruction – by analysing data on student performance and learning styles to enable the design and personalisation of lectures and to improve planning, tools and learning strategies.
2. Matching students to programs - open data on performance (e.g., educational outcomes) can aid students in selecting the most appropriate educational opportunities within establishments that are strong in their chosen areas of study.
3. Matching students to employment – data tools can support the employers and (near) graduates to find each other through skills matching. Companies can analyse data on their employees to determine the skills necessary to succeed at the job, while personal achievement data allows them to select applicants who have a close fit to open positions.
4. Transparent education financing – open data can help students gain a better understanding of the benefits, costs, and financing options of courses and programmes offered by different institutions.
5. Efficient administration – open data can be used to expose variations in supplier prices for products and services improving the efficiency and effectiveness of procurement. Sharing information across universities and regions can lead to significantly improved results through benchmarked price negotiations.

### OU Analyse

OU Analyse is a learning analytics tool wholly developed within KMi that has now been applied to over 120,000 OU students and been made available to over 900 of our tutors. The tool uses student data to make predictions of whether a specific student will pass the next assignment or the course overall. OU Analyse can be thought of as an example of the first route outlined above on how data analytics could add value to education.

<sup>1</sup> <http://kmi.open.ac.uk/>

<sup>2</sup> <http://arstechnica.com/business/2016/12/federal-report-ai-could-threaten-up-to-47-percent-of-jobs-in-two-decades>

<sup>3</sup> <http://www.bbc.co.uk/news/business-39377353>

<sup>4</sup> [http://www.mckinsey.com/insights/business\\_technology/open\\_data\\_unlocking\\_innovation\\_and\\_performance\\_with\\_liquid\\_information](http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information)

Figure 1 shows a screen snapshot of the Module View provided. Towards the top of the screen is a graph that contains data for the current presentation of a module, in this case 2014J ('J' denotes an October start) in dark blue, and the previous presentation of the same course (2013J) in light blue. The bars represent past or predicted (in red) assignment scores. The line represents engagement with the Virtual Learning Environment (VLE). The scroll bar above the graph, with the label 'Time machine (choose week)' allows the user to move the focus forwards and backwards through time to see how the predictions progress. We can see that the 2014J students are predicted to attain a lower average score for their final assignment when compared to 2013J students.

We can envisage students engaged within a course as players in a game. The game has three outcomes: pass, fail and not finishing. Each week the students make a move in the game, for example, watching a video or completing some online quizzes or doing nothing. Some sequences of moves lead to successful outcomes and some do not. In essence OU Analyse is predicting student outcomes based upon the 'moves' taken by the previous year's cohort. In addition to data related to student interactions with the VLE OU Analyse also uses student demographic data.

The five boxes below the graph show summary data for the 2014J students indicating if the numbers are above or below the 2013J set. For example, the average Tutor Marked Assignment (TMA) score is up 3.7% from the previous year.

The bottom of the window contains a grid where each row represents a specific student. Respectively the columns show: the student identifier; the actual or predicted assignment results (green for pass, amber for a low score and red for did not submit); a justification for predictions; the voting pattern for the four machine learning based prediction models; the predicted outcome for the next TMA; and finally the prediction for the whole module.

This view is used by module tutors to decide which students are at risk and what interventions may be required. A new prescriptive analytics component is currently being tested which recommends a specific set of activities for students who are at risk. For example, course sections to read and videos to watch which can be accomplished within a limited time frame.

Figure 1 A screen snapshot of the OU Analyse Module View

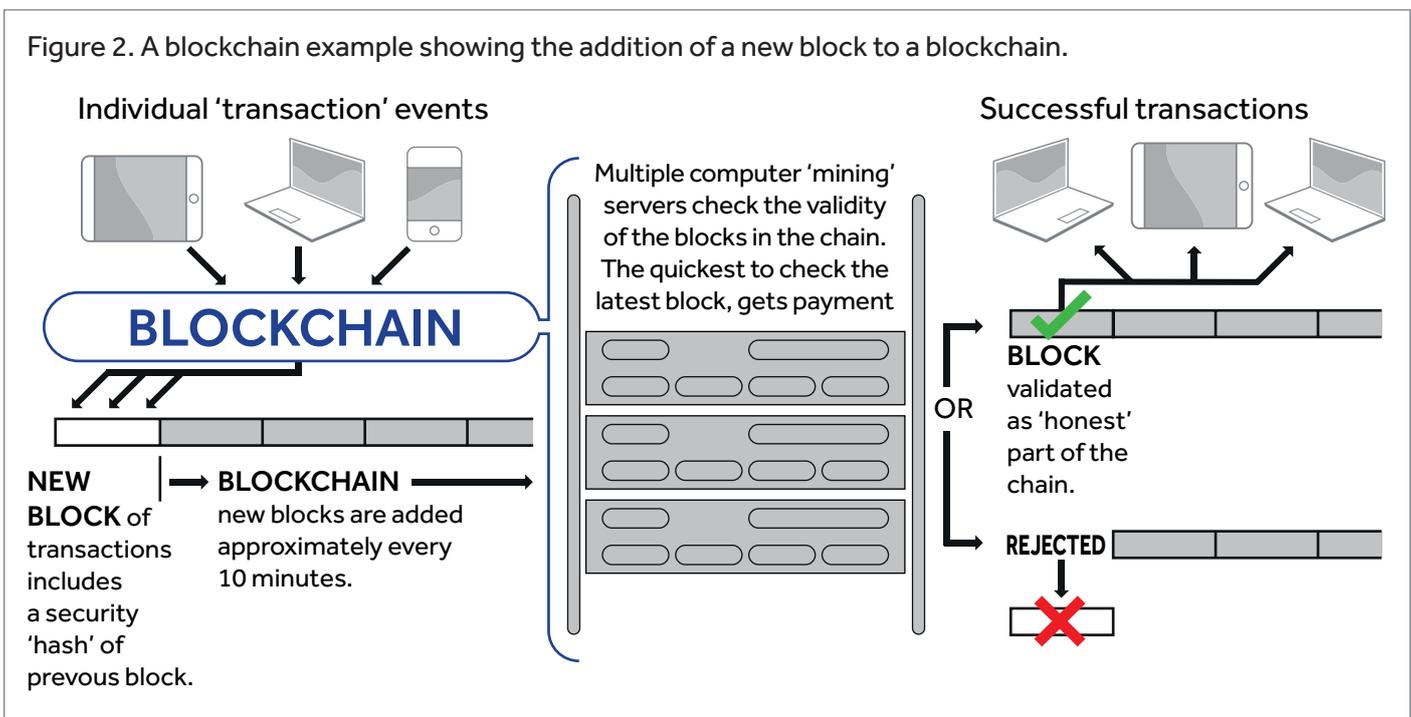


## Blockchains

Blockchain technology, which can be thought of as a public distributed ledger, promises to revolutionise the financial world. A World Economic Forum survey in 2015 found that those polled believe that there will be a tipping point for the government use of blockchain by 2023.<sup>5</sup> Governments, large banks, software vendors and companies involved in stock exchanges (especially the Nasdaq stock exchange) are investing heavily in the area. For example, the UK Government recently announced that it is investing £10M into blockchain research<sup>6</sup> and Santander have identified 20-25 internal use cases for the technology and predict a reduction of banks' infrastructure costs by up to £12.8 billion a year.<sup>7</sup>

The reach of blockchain technology will go beyond the financial sector however, through the use of 'smart contracts' that allow business and legal agreements to be stored and executed online. For example, the start-up company Tallysticks<sup>8</sup> aims to use blockchain based smart contracts to automate invoicing. In October 2015 Visa and DocuSign showcased a proof of concept demonstrating how smart contracts could be used to greatly speed up the processes involved in car rental - rental cars can be driven out of the car park without any need to fill in or sign forms. The ability to run smart contracts led Forbes to recently run an article comparing the future impact of blockchains to that of the Web and Internet.<sup>9</sup>

Figure 2. A blockchain example showing the addition of a new block to a blockchain.



As mentioned earlier a blockchain is a publicly shared immutable ledger – an append only log of transactions which uses crypto-currency techniques to minimise any security risk. As can be seen in Figure 2, transactions are contained in blocks that are linked together through a series of hash pointers. Any tampering of a block can be detected since the hash pointer to it would no longer be valid. As a ledger system it is very open. In addition to the source code being openly available a key feature of blockchains is that in principle every user has their own copy of the entire blockchain. In fact, there is no central or master copy simply the multiple copies held by the volunteers in the user community. Volunteers are rewarded for their effort through a number of algorithmic processes that can result in payment. Small payments can be attached to individual transactions. Consensus on what types of blocks and transactions can be part of the

<sup>5</sup> <http://www.coindesk.com/world-economic-forum-governments-blockchain/>

<sup>6</sup> <https://www.cryptocoinsnews.com/the-uk-treasury-is-embracing-block-chain-digital-currencies-and-big-data-research/>

<sup>7</sup> <http://uk.businessinsider.com/santander-has-20-25-use-cases-for-bitcoins-blockchain-technology-everyday-banking-2015-6>

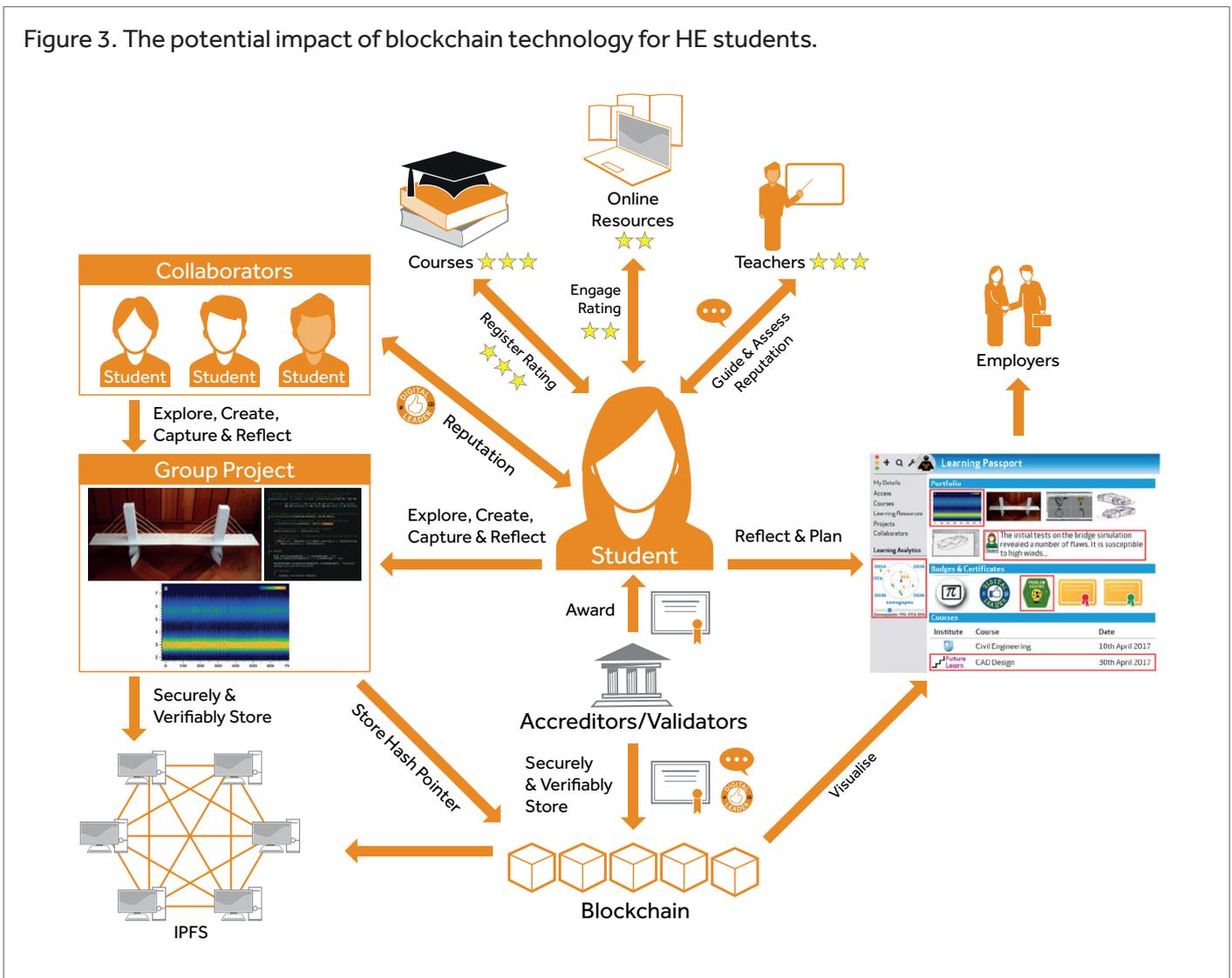
<sup>8</sup> <http://tallysticks.io/>

<sup>9</sup> <http://www.forbes.com/sites/valleyvoices/2015/12/21/why-the-blockchain-is-the-new-website/#2715e4857a0b742d9a29ac2e>

blockchain is automatically reached according to whether the majority of blockchain holders accept newly proposed blocks. This attribute leads to a system where consensus is hardwired into the software. Without the need for any central control or mediator, blockchains allow for leaderless democracy — a new way of governing human behaviour online through ‘one computer one vote’. In this way, a blockchain can act as a provenance protocol for sharing data across disparate semi-trusting organisations.

Our viewpoint on the potential for blockchain technology to transform higher education is captured in Figure 3. Students typically are engaged in courses which will have an online component, will use a variety online resources, participate in group projects which produce a number of designed or created artifacts and receive informal and formal feedback from teachers. At the successful completion of a module or course, a formal accreditation body will issue formal certification. With blockchains we can build a student centric ecosystem where student created artifacts, informal and formal feedback from peers and tutors and student ratings can flow and be seamlessly stored. All of which are under the control of the specific student. Through a Learning Passport interface students would be able to control their data including all accreditation, feedback, outputs, courses taken and manage access to for example potential employers.

Figure 3. The potential impact of blockchain technology for HE students.



<sup>10</sup> <http://www.open.edu/openlearn/get-started/badges-come-openlearn>

<sup>11</sup> <http://www.open.ac.uk/postgraduate/qualifications/f10>

At the OU we have been conducting experiments on accreditation, badging and student ePortfolios with our OpenLearn Badged Open Courses<sup>10</sup> and with a running Master's course.<sup>11</sup> The main power of blockchains emerges when multiple stakeholders are involved which do not fully trust each other. In light of this we are in the process of developing UK wide and international blockchains for higher education. We envisage that in the near future all student accreditation and portfolios will be registered in the national or international blockchains. The advantages this would bring include: reduced risk of fraud, built in student identity management, increased student empowerment, lowering of the cost of processes associated with student data management and increased transparency and accessibility.

More radically, blockchains can support Uber style educational institutions where university processes are replaced by smart contracts and all stakeholders interact with no intermediary. For example, educators can receive micro-payments every time their authored learning materials are used. Screencasts of all the demonstrators and prototypes we have developed can be found at <http://blockchain.open.ac.uk/>.

## Summary

Digital disruption is causing paradigm shifts in many sectors. For example, a recent slide from a senior IBM representative<sup>12</sup> outlined how the world's largest taxi company (Uber) owns no vehicles, the largest accommodation provider (AirBnB) owns no real estate, the most popular media owner (Facebook) creates no content, the largest phone companies (Skype and WeChat) have no telecommunications infrastructure and the world's largest movie provider (Netflix) owns no cinemas. Digital technologies will continue to disrupt across a broad range of sectors at an ever-increasing pace.

Universities need a way to handle new potentially disruptive technologies. Within the Open University we have two units that focus on innovation in relation to the future of higher education. The first is the Institute of Educational Technology<sup>13</sup> which has a focus on pedagogy and learning strategies. In particular, the development of new pedagogical models and the evaluation of learning using a variety of qualitative and quantitative methods. The Knowledge Media Institute, as described above focuses on the latest technological developments that will impact learning. KMi, provides a technology foresight function as well as creating and deploying cutting edge systems.

Outside of the OU we would highlight Universitat Oberta de Catalunya<sup>14</sup> for the positive fashion in which learning innovation is handled. A four-phase innovation funnel has been setup that oversees innovation from ideas through to transfer to other institutions. A mirror of the Virtual Learning Environment forms part of the research and innovation infrastructure.

Universities have been around for a very long time and many of the teaching methods used today have existed for hundreds of years. As globalization increases, the digital native population grows and market forces enter the higher education arena technological complacency is no longer a viable option. Moreover, realising the full potential of new digital technologies will radically enhance the educational experience whilst potentially decreasing cost and increasing transparency and overall empowerment. For these reasons the OU we have placed technologies such as those outlined above at the heart of our 'Students First' organisational strategy.<sup>15</sup>

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<sup>10</sup> <http://www.open.edu/openlearn/get-started/badges-come-openlearn>

<sup>11</sup> <http://www.open.ac.uk/postgraduate/qualifications/f10> <sup>12</sup> <https://www.siliconrepublic.com/companies/2015/11/25/digital-disruption-changed-8-industries-forever>

<sup>13</sup> <http://www.open.ac.uk/iet/main/>

<sup>14</sup> <http://www.uoc.edu/portal/en/>

<sup>15</sup> <http://www.open.ac.uk/about/main/mission>

## The entrepreneurial university revisited: promoting change in time of uncertainty

**Professor Karen Bryan, Pro Vice-Chancellor Regional Engagement and Dean of the Faculty of Health and Wellbeing, Sheffield Hallam University**

### Regional leadership

Sheffield Hallam University's mission is to transform lives. One of four pillars of the university strategy is leading locally and engaging globally. The city region in which Sheffield Hallam University sits, in common with many post-industrial regions of the UK, has lower economic productivity and lower educational attainment levels than the rest of the UK. Heifetz et al (2009) suggest that universities operate in a permanent 'crisis', meaning that we operate with a constant level of uncertainty, almost certainly heightened for the next few years by Brexit and everything that will follow our exit from the EU. In addition our regional devolution has been delayed partly by fractured relationships between regional centres that need to collaborate. To manage this, the University needs to generate strong, collaborative, place based leadership in partnership with other key stakeholders.

### Shaping local plans

In February 2017, a prospectus for Sheffield City Region 'A better Future Together' was launched setting out an ambitious agenda for the region for the next twenty-five years. This project was led by the city's two Vice-Chancellors and the Chair and the CEO of Sheffield's Teaching Hospitals NHS Foundation Trust. They worked with the Local Enterprise Partnership and with the Sheffield City Region Combined Authority. There are well publicised examples of such leadership in post-industrial areas of the USA where 'eds and meds' as anchor institutions have led regeneration, such as Johns Hopkins University in Baltimore. Sheffield Hallam is recognised as an anchor institution in our region, but the partnership approach here is crucial. In 2013/14 an independent economic impact analysis showed that Sheffield Hallam contributed a £425 million gross value added contribution to the Sheffield City Region. The joint leadership potential of our 'eds and meds' is evident, and other regional stakeholders will hopefully be inspired to help deliver the ambition.

### Harnessing intellectual capital

In common with all universities, Sheffield Hallam has significant intellectual capital that the region can benefit from. Harnessing this intellectual capacity and applying it to regional challenges is an example of an applied University at its best. The Sheffield City Region has a lower level of school attainment than the national average, and insufficient skills development to meet the aspirations of the Northern Powerhouse. Interventions to significantly improve standards of educational attainment in the city region demands strong ambition, clear leadership and effective collaboration because no single education body in the region has the authority, capacity or capability to impact at regional scale. Many studies have shown that the key to success lies in improving the standard of classroom teaching - this is one of the key elements that drives up educational standards.

Sheffield Hallam's Institute of Education is a major provider of teacher education, and is leading a cross-region project to bring together routes into teaching under a common charter mark, new teachers will be equipped with the skills they need to thrive in improving schools, and there will be a regional career pathway to develop and retain experienced teachers in the region. Later phases of the project will develop collective approaches to social mobility across all education providers including universities; provide fast track routes to educational leadership and specialisation, and develop a region wide model for subject knowledge enhancement to address hard-to-recruit subjects drawing on the region's considerable school and HEI subject knowledge base.

This project complements an extensive school outreach programme that the two universities in the city participate. More recently this programme has been enhanced by a National Collaborative Outreach Programme grant to enable a deeper focus on regional area postcodes with very low participation in higher education. This will enable outreach work with young people aged 14-18 whose families may never have

experienced higher education. In common with many universities, Sheffield Hallam is reviewing its bursary offer to support disadvantaged students throughout the period of their study.

### University contributions to workforce transformation

Regional Sustainability and Transformation Plans which will re-shape delivery of health and social care services, changes to the funding regime for health professional courses (commissioned bursary funded places replaced by the standard student loan system) are just some of the current challenges that relate to health professional education. There are opportunities as well as challenges and there is a need for university staff to be resilient in managing agendas that are led by other stakeholders. Sheffield Hallam has strengthened working with partner FE colleges to try to ensure that local recruitment of students has a range of pathways building on existing collaborations.

Partnership working with NHS employers and changes in delivery of care suggest that future health and social care professionals will need to be adaptable, team focused practitioners who can deliver increased leadership and staff accountability demands. As a large provider of nursing, allied health and social care/ work, with an extensive range of professional courses, there is an opportunity to extend provision to some professions where there is known to be a workforce shortage and where the university has a range of relevant skills and knowledge. Full time undergraduate is not necessarily now the default option for new courses, and in consultation with local employers, fast track postgraduate routes and degree apprenticeships also need to be considered. This offers a welcome opportunity for entrepreneurial thinking, but as alternative educational delivery systems come on stream, there is a need to balance flexibility and quality maintenance if not enhancement.

Universities will need to manage complexity of delivery and to agree the range of delivery modes that a group of staff can manage. Similarly, practice will need to adapt to placement students, apprentices and associate level students potentially within the same provider provision. There must be doubts moving forward as to the capacity within the NHS, social care and third sector organizations to manage this potential level of educational complexity, given escalating user demand and demands for cost savings. HEI's will need to be flexible in their delivery modes, but also set clear expectations for what practice must provide in different education models to ensure a quality learning experience for the student.

### Applied learning for regional benefit

Venture Matrix is a unique scheme that brings together students with businesses, charities and not-for-profit organisations from across the Sheffield City Region. Students carry out projects that support the organisations to tackle current operational issues providing them with valuable consumer research, product design ideas and marketing suggestions. The company can then use the advice offered to make a change to their business including better engagement on social media, potential international expansion, store location and pricing. The students conduct the projects as a part of their studies and their work is supervised by academic staff.

Since 2013/14 the scheme has contributed over £1.7m to the local economy through more than 1,150 projects involving almost 4,500 students. Students benefit by working with a real client on a genuine issue or opportunity for the company and extend their understanding of actual challenges in business and in society.

### Regeneration through education and research

A derelict stadium standing on contaminated land, which was the former site of the World Student games, and the training ground of a number of highly successful current and former UK athletes was an opportunity for physical and psychological regional regeneration. In the context of economic recession the city council needed to harness the intellectual (and to some extent economic) support of other stakeholders. Demolition of the stadium released funding that had been used to maintain the site safely for limited initial land decontamination. A project Board formed chaired by a determined and inspirational local politician as a partnership between the city council, Sheffield Hallam University and the City's NHS Teaching Hospital Foundation Trust. All parties had severe cost constraints, and a need to make an innovative contribution, while operating within the mission of their own institution, aiming to achieve a significant asset for the city region's population.

A focus on education and research linked to the city region's vision to have a healthier population that takes more exercise determined the first phase of the development. A school for children from two to sixteen was approved working on a 'school as community hub' model offering the opportunity for services such as family support, and financial and debt support to be delivered in the community. With Sheffield Hallam University as the university sponsor, funding was gained for a University Technical College (UTC) with specialisms of health sciences (including sport) and computing. This represented a second UTC in Sheffield building on the achievements of the city centre UTC and demonstrated effective partnership across the school sector, FE (Sheffield College) and the HEI sector. A 3G pitch and associated facilities offered sport and exercise provision for the schools and an opportunity to attract professional sports men and women to the site.

Grants for the Advanced Wellbeing Research Centre and the National Centre of Excellence for Food Engineering, which draws attention to the wellbeing agenda of the food and drink industry, were obtained by consortia lead by the University. Both of these centres focus on applied research working with industry partners to solve real world problems. Further grants have been obtained to complete the decontamination and to achieve the infrastructure around the buildings and the pitch to create a resource that site users and the public can access. There is much still to be accomplished to fully realise the potential of the facility, but the achievements to date are a testament to determined effort, entrepreneurial challenge and above all partnership working.

## Conclusion

Universities have a valuable role to play in regional development particularly those regions beyond London and the southeast where emergence from economic recession is only beginning or is largely yet to come. Linking regional stakeholder and population needs to aspects of the core mission of a university offers an opportunity for focussed, place-based leadership constrained only by the quality of regional stakeholder partnerships, the availability of funding and the ability to maintain or enhance the quality of educational and research provision.

Dr Andy Salmon, Executive Dean, College of Liberal Arts, Bath Spa University (formerly Deputy Dean Partnerships, Innovation and Enterprise Faculty of Arts, Law and Social Sciences, Anglia Ruskin University)

### 1. Introduction

**What is Design Thinking (DT)?** The clue is in the name - literally, thinking like a designer. Originated by Tim Brown at IDEO and championed by Stanford D, design thinking deploys the methodologies of design across trans-disciplinary knowledge economy domains: start with your end users, enhance function with attractive form, see challenge as inspiration, rapidly refine your ideas from a wide base of stakeholders, and build test prototypes to enable agile proof of concept. Above all, liberate the creativity of all in the value chain by using design at the start of the process rather than, as historically, as a decorative embellish or corrective. It is estimated that if so deployed 90% of design's value added comes at the start.

**What is an innovation hub?** A trans-disciplinary capacity builder combining student, staff and near business needs to enhance learning, innovation, research potential and product development by deploying design thinking methodologies coherently across all three zones of activity.

**What is the EULP connection?** I was already experimenting with Design Thinking before last year's course via partnerships in Finland with Aalto Innovation Garden, Laurea and XAMK Universities. What the EULP sparked was the realisation of a series of shared design 'challenges' requiring trans-disciplinary/trans-institution and trans-sector collaboration and, given the relative urgency, the need for agile solutions. In entrepreneurial terms it meant the need to think of us as a knowledge economy business.

**Why does this matter?** What has become increasingly clear since the EULP finished for our cohort in June 2016 is that Design Thinking innovation's precepts are part of an international realisation, saliently voiced in the Worldwide Economic Forum's identification in March 2017 that the three topmost skills the 2030 workforce will need are (1) critical thinking (2) complex problem solving (3) creativity. This is a moment of re-definition for the Arts and Humanities in particular.

### 2. The methodology

Whilst participating in the EULP several realisations coalesced based around design thinking. Nearly all the successful entrepreneurial case studies embraced DT solutions. Students, staff and businesses were treated as end users with service needs to first understand, then fulfil. Simple but profound design questions were deployed at the start of the project - most meaningfully successful educational entrepreneurs tested data against lived experience to ascertain the fundamental functional challenges rather than metric + assumption. The result seemed a genuine sustained openness, welcoming challenges as inspiration from the full spectrum of an entrepreneurial university's engagements, where success is driven by the vital work of creative solution finding. Lastly, the EULP technology and demography sessions reinforced the truth of our future challenge; many current complex jobs will soon cease to exist (e.g. relationship between the legal professions and block chain technology). As well as adding value to current interactions, we need Design Thinking to help us redefine what it will mean to be more human in the face of virtual and augmented realities, with internationally located co-workers and impact based contracts that require much enhanced employee agency possibly working simultaneously for several employees/clients.

### 3. The deployment

In preparation: from the start I decided to use Design Thinking methodologies on the hub project itself. In May 2016 I ran a lunchtime workshop open to all academic and professional staff to explore the appetite for a new trans-disciplinary approach within the Faculty of Arts Law and Social Sciences (ALSS) based on examples from Aalto Innovation Garden. We are a fairly traditionally 'departmental silos' Faculty. The audience was unexpectedly large, and surprisingly positive. The main news from the end users for me was that they had wanted to collaborate across disciplines for years, but the perception was that managerially this was blocked. The one core request was for creative meeting, thinking and making spaces to enable new ideations and prototyping.

I augmented this insight by running two three day workshops with Aalto Game in July and October 2016 to deep dive across academic and professional services what these new collaborations might look like. Amidst a host of practical details including the need for resource re-arrangement and time investment, the realisation of these workshops was the value of sustained non-hierarchical conversations where top-down can meet bottom-up. In September 2016 I led a whole staff development day to generate ideations around how we might deploy Design Thinking to develop our products and processes. What became clear was that our current curriculum, co- and extra-curriculum, industry orientation and employability agendas, internationalisation, innovation and future research capacities (including our capacity to bid for likes of ESPRC) were all challenged by DT methodology. There was also a very strong perception that these necessary changes would not happen within the current structures. In short, the innovation hub need was identified.

Ideating the concept: Cambridge is replete with innovation infrastructures: Europe's largest science and technology hub, a series of successful entrepreneurial incubators for high impact investors (Idea Space), social enterprise (Allia), business development (St John's Innovation Centre) and Creative Technology start-up (20% of the UK's games industry for instance is within 5 miles of the Anglia Ruskin University (ARU) Cambridge campus). Having gleaned the inspiration for the innovation hub from the ALSS staff, I tested the concept with a wide base of these external partners in September and October 2016. The meaningful gap identified was a need for a "playfulness" space; companies themselves, especially the large ones, lacking this in their routine business whilst also noting a repeated disjunction with emerging talent ('where is it? we don't understand it! why won't it stay?'). There was also a keenness to develop a 'deeper relationship' with ARU, based on shared core projects for mutual sustainability rather than just current advisory roles. This did not translate into immediate offers of direct funding, but there was a willingness to offer establishment time. I also discussed the matter extensively with our new Dean during October. He asked a series of demandingly good questions that enabled me to refine a concept document for our Vice-Chancellor with 22 key outcomes by late November 2016. In two meetings (December 2016 and February 2017) our Vice-Chancellor endorsed all 22 outcomes based around learning, knowledge exchange, employability, internationalisation, innovation and research capacity building, and product development.

Building the prototype: At time of writing this is a work in progress. A business plan was formed for the Vice-Chancellor by April 2017. The major challenge is to formulate the production process and project timeline to demonstrate the necessary rate of sustainable return on investment. Keeping all partners, internal and external, engaged (but not overly so) is also a challenge. Perhaps the biggest challenge though, has been the capacity for the concept deep dive discussions to illuminate further needs; within the same period I have been compelled to write additional wholly new Employability and Internationalisation Strategies. Not originally part of my planned workflow, but once you ask for the 'real challenges' you must remain open to having to design new solutions in answer to unpredicted delineations. Simultaneously, there are equally unexpected pleasures. For the price of a lunch, members of the extensive Cambridge entrepreneurial society have been very willing to give invaluable advice around brand development, thought leadership, project ownership, value definition and potential return on investment.

#### 4. Interim learning: immediate

**Future curriculum:** Both in terms of what we teach and how we teach the innovation hub and related Employability Strategy have asked profound questions. The most needed future products will most likely cross discipline and Faculty divides. We have started designing new curricular with the Business School and Science and Technology. The arrival of a truly digital campus plan will enable us to deliver blended reality and **internationally collaborative curriculum. Discussions with partners in Europe and China are underway.**

**Future students:** The innovation hub has accelerated a necessary conversation about our role as educators in a rapidly changing society. Employability discussions have moved from the relative responsibilities of aiding the students to find work after graduation to seeing their whole experience at ARU as an enablement of their whole self. As a large Cambridge technology company summarised "we're looking for people, not

CVs". The publication of HESA's finding in November 2016 that only 1 in 2 graduates think their University prepared them for 'the world of work' has facilitated the finding that the single most repeated perception voiced by our students is 'lack of confidence' based on feeling of inadequate academic and applied preparation. We have begun a complete revision of our co- and extra-curricular offers.

**Future staff:** The innovation hub preparation discussions prompted consultation workshops with recently appointed staff, most frequently early careers researchers who significantly present as driven multitask networkers, eager to advance, mobile, technologically naturalised, relatively non-hierarchical and expectant of change; in short, entrepreneurial. They have been the most universally enthusiastic engagers, prompting the obvious thought that such projects (a) unlock existing potential, (b) in doing so create potentially more level academic and professional communities and (c) if we want retain such talent especially post Brexit (20% of ALSS staff are EU passport holders) we need the enablement of the Innovation Hub.

**Strategic uplift:** The other side of the staff discussion coin is that many of our senior responsibility carrying staff are not au fait with an innovation hub set of consequences. These have been the harder discussions, for which the Vice-Chancellor's and Dean's backing have been helpful leverage. Undoubtedly though the initiatives have lifted our collective management eyes off the endlessly operational and begun to provoke a deeper necessary 'why?' opening the real strategic questions we may sometimes find comfort in being too busy to address.

## 5. Interim learning: more strategic

**Thought leadership:** The last point certainly applies to Deaneries, where operational pressures can occlude strategy, or even be renamed as the same. A consequence of the EULP/Design Thinking/the innovation hub has been a significant uplift in my own strategic engagement, most manifest in the development of fellow design thinker relationships with key universities and entrepreneurial creatives in Finland, Holland, Spain, China, Bristol, London and Leeds. Connecting these networks with a large ERDF Applied Games project won in August 2016 has begun the establishment for ALSS of an ecosystem with world ranking partners; potentially highly advantageous in terms of thought leadership, market profile, investment capacity and brand. As the following 3 bullets delineate, the final value is being an actor in a profound cultural and economic change.

**Deep structure thinking:** So called 'wicked problems' are products of modernity's unprecedented connectivity. Where everything connects to something else there is no stopping point. Therefore there is in a finite sense no such things as problem solving. One reading of the current wave of populist politics is a desire to return to a simpler relatively disconnected state: "Let's make America great again; Brexit means Brexit and we'll make the best of it". Long term this needs counterbalancing with a recent discussion I had at Facebook's European Headquarters in London; "30% of the people in this building are from the UK. The cat is out of the bag." As the Finnish innovators Tuomo Kuosa and Jari Koskinen state the "adventure (is) in the in-betweens and the search for what is bubbling under opens up fascinating new views". This requires a far longer and more open tolerance for necessary ambiguities, demanding a strategy agile enough to capitalise on the contingent, whilst able to recognise profounder constants. In more mundane terms it demands a need to keep focused on concrete outcomes, countenance rapid real change, communicate widely with utmost clarity, understand core drivers and out of them fashion visionary shared strategy – all things that universities are not universally good at. Paradoxically, we need to be deep structure educators of students and ourselves.

**Blended networks not arrowheads:** The Witty Report regarded universities as "arrowheads" trailblazing innovation into the surrounding society. Everything about the innovation hub and Design Thinking challenges this image. So far some of the sharpest conversations I have had have been outside the University. Behind blended learning is blended knowledge. As a leading technology representative in Cambridge said to me "In terms of technology per se there are three universities in the world we would go to. In terms of understanding society we'd like to talk to everyone". Whilst desk researching other innovation universities I have realised no one needs to actually go to university any more for knowledge. In all but one case so far I

have been able to download everything I think I need and free of charge. As Hamlet warns Horatio, "There is more in Heaven and Hell than ever dreamt of in your philosophy". Arguably, today again far more knowledge and application, much more easily obtainable, resides outside academe than within it. This begs a completely different co-creative approach to innovation, applied research and asset development.

**Glocalisation:** Likewise, internationalisation needs to shift from merely being a discussion about curriculum appropriateness linked to perceived relevance for sustained recruitment, to a whole spectrum realisation. I am writing this article from Beijing having spent yesterday at the University of Tsinghua, discussing an initiative between their Arts Academy, and top universities in Milan, North America and France whose combined project is the delivery of a new blended learning Master's Fine Art between all partners using fashion design as the nexus for applying Design Thinking to challenges in business, engineering, architecture, health, well-being, low income and economy development. Behind developing the students' 'whole selves', our own innovation and research capacity, networks and knowledge maps lies the deepest connectivity challenge. Local means international and vice versa. Each here is everywhere. Profoundly liberating, deeply troubling. Our greatest achievement so far as a civilisation perhaps, and our most intractable generator of wicked problems.

## 6. Conclusion

Considering all this, I don't believe our conventional university structures will survive or, if they do, our relevance and ultimate usefulness will be on a law of diminishing returns. The ultimate motive for setting up the innovation hub is the establishment of a first prototype for ARU to test this. In doing so the aim is to provide a capacity building platform for students, staff, innovation and research partners within a glocal context. The reason for writing this outline is to invite your connection if any of the above coincides.

If so, please contact me – [a.salmon@bathspa.ac.uk](mailto:a.salmon@bathspa.ac.uk).

I'd like to express my thanks to EULP for the 2015-16 cohort, with whom all the foundation for above was fostered.

Sir Drummond Bone, Master Balliol College, Oxford

### A long history

Balliol College's traditional date of foundation is 1263, and in any case it was not earlier than 1260 and not later than 1266. Alongside John Balliol, his widow the Lady Dervorguilla was the main benefactor, who established a Scottish connection taken up with major benefactions in the 17th century and lasting through to the present day. But the Balliol that is recognisable culturally stems from the late 19th century, and in particular the Mastership of Benjamin Jowett. Jowett and the College were leaders in the University reforms, widening participation beyond the Anglican faith and the British borders, but also introducing competitive entry. Balliol is still associated with a progressive political stance and the academic excellence that the competitive entry ensured. The effects rippled out over time to Toynbee Hall in East London, to Bristol University, and later to Keele University, all at crucial points linked to Balliol.

### Shared challenges

The challenges we face will in large part but not perhaps entirely be shared by the sector as a whole. We might as well start with Brexit – from our point of view sadly, despite the Foreign Secretary being a Balliol alumnus. While it's research income that makes the headlines, and Oxford on average will lose more than 60M a year, in some years nearer 90M, the real and immediate effect is on people. I have 7 Fellows (i.e. members of Faculty) out of a tutorial body of thirty-three who come from Continental Europe – only two of whom are teaching their native language. The figure of 21% is mirrored across the University, and 1 in 4 UK research papers are co-authored with a non-UK European national. All are to a greater or lesser degree unsettled, and the half-hearted government assurances have made matters worse rather than better. We have had candidates pull out of job applications, and the only bright side to that is we have also had instances of our academics pulling out of USA job applications because of the Trump factor.

On the research side partners are also uneasy, and it is difficult to see how partnerships will build as naturally as they have over the last many years. As a selecting institution, students are less of a worry for us, as even by Oxford standards there is a long way to go before we come to a tail, and financially speaking undergraduates see something like a £5k subvention per head from the College endowment, so even were there to be a fall in numbers, it does not hit the College in the wallet.

But that leads obviously into the biggest Oxford problem, the access issue. We are criticised either for social engineering or for being elitist. We spend very nearly the highest proportion of our OFFA regulated income on widening participation and access, and this College has a fulltime outreach officer, many student volunteers, and very supportive Fellows. The problem in the main is applications – once in the system 'flagged' (that is, those from various categories of deprived backgrounds) students do well both in admissions and on course. But for no apparent reason (other than possibly a strange spike in applications to one subject area) our proportion of offers to State School students fell from 73% last year to 56% this year. 'State School' of course covers a multitude, but it is an easy label for the Press. More significant are the WP students. Balliol's 'flagged' applicants have risen from 55 in 2013 to 68 this past year, and although that represents only 8% of all applicants, once in the system they make up 12.5% of offer holders, and have a good record too on course. We in short do not share a recruitment challenge in terms of numbers – though the applicants to places ratio may be to other universities surprisingly low – some 9:1 here at Balliol in a particularly good year, on average across the University about 6:1 – such is the force of self-censorship – or even worse censorship by Schools or teachers - in the pre-application stages.

The very visible Elephant here is the Higher Education and Research Act, and here our concerns are probably common to the whole sector. They are probably tilted more towards the uncertainties of the UKRI regime than the uncertainties of TEF, since the teaching regime here is so sui generis, at least alongside Cambridge, but one can never be quite sure.

The risks of political interference are considerable in both UKRI and TEF, and of course have their most dramatic realisation in the right of the Secretary of State to remove degree-awarding powers by regulation, which is surely completely unacceptable, but bears a certain similarity to the attempt not to refer a certain Clause to Parliament. Recent amendments have made things slightly better, but not done away with the climate of suspicion. There are some signs that the yoking of Innovation to research in UKRI is playing in favour of the former, and there is still doubt over whether the yoking of QR to UKRI will see a rebalancing between QR and Research Council funding. Meantime in February and the BEIS letter to HEFCE due in December had still not been received, which at a practical level does not lead to the best financial planning at institutional level.

The recent general election did not help the speed of process in government either. The situation is complicated in Oxford because we are dealing with three budget centres rather than two, or, if we include departments, four rather than three – for we have the Colleges in addition to the Divisions (our equivalent of Schools or Faculties) and the central University. Thus any change in the external funding environment has to in some manner or other be inflected to take account of these three groups, not the easiest of tasks. Our ultra-democratic Governance system has many things to commend it, but dealing efficiently with this kind of uncertain change is not perhaps one of them.

### The Entrepreneurial University revisited

Chris Baker, Entrepreneurial University Leaders Programme Director 2017, NCEE

#### Getting on board

I have been involved with EULP for six years. Like so many of its participants in 2011 I was looking for something different that would help me develop my thinking and give me a better understanding of change beyond my own institution. I wasn't disappointed. My continued association with the programme was testimony to the fact that developing ideas and bringing them to fruition in higher education takes time! I found the regular contact with successive intakes always brought fresh insights and stimuli. The contributors to the programme, of which there have been many, presented contrasting perspectives on change and the key issues facing the sector. I never failed to end a year without feeling optimistic about the global enterprise of higher education, its achievement and potential, whether it was inspired by the late Sir David Watson's review of the history and purpose of universities or Paul O' Prey's assertion of the importance of values, or simply listening over coffee to a recent participant, Mirvat Bulbal, talk enthusiastically about the role of the entrepreneurial university in Palestine. All left me feeling part of something bigger, more worthwhile and relevant to the challenges facing society. So on a personal and professional level I was a satisfied customer. But the larger question is whether the product, the Entrepreneurial University and its packaging, the EULP programme, are still relevant today. This is what I would like to briefly explore now.

#### The entrepreneurial university

A starting point has to be the case for the entrepreneurial university. This is eloquently set out in the NCEE publication "Leading the Entrepreneurial University" (2009, updated 2012). Allan Gibb et al are concerned to show that in order to survive let alone thrive in an uncertain and complex environment institutions need to move towards an entrepreneurial mode. They are particularly keen to explore the impact this has on the organisation and leadership of universities. As James Ransom demonstrates in his contribution to this publication the future will be about continuing uncertainty that places changing expectations and demands on universities. There will be no such thing as a steady state. However many people working in universities will point to the ability of the sector and individual institutions to cope with changes whether they are about expansion in student numbers, adjusting to new fee regimes or forms of regulation or using technology to support learning and teaching etc. So the much-predicted "avalanche" is not going to sweep all before it and is merely scaremongering. This inherent conservatism or ostrich like behaviour frustrates senior managers who are constantly looking to the financial threats that the future continues to hold for the proverbial bottom line.

Neither are universities or their leaders slow to re-organise in response to changes. They modernise structures, import new terminology to describe roles and constantly realign and rebrand academic departments. These are structural responses rather than cultural. For Nick Petford, Vice-Chancellor at the University of Northampton and a regular contributor to EULP, this is an inadequate response.

In a recent article on the entrepreneurial university he writes:

“Entrepreneurial universities may wish to experiment with these new management models fostering team work and partnership, push down responsibility and accountability to the coal face and remove hierarchy and as much bureaucracy as possible. Intrapreneurship programmes where employees are encouraged to act like entrepreneurs within organisations and given freedom to develop projects without interference from layers of management should be encouraged. This is the real hallmark of an entrepreneurial university; not the number of patents or disclosures published or licences granted, although these help, but the ability to change the operating model wholesale to hedge against uncertainty and create an environment based on a kind of planned opportunism, comfortable with ambiguity, resilient and confident in itself.”

**Nick Petford, The entrepreneurial university in “The many faces of the university” (2017) Wonkhe and Shakespeare Martineau**

In the same article he rightly asserts that the entrepreneurial mantra has been repeatedly used over the last twenty years with little evidence of change. There has certainly been a proliferation of interest. This can be seen in examples such as Guiding Frameworks for the Entrepreneurial University (OECD 2012), national awards for the Entrepreneurial University of the Year and the creation of tools like the EUs HEInnovate to measure the extent to which an institution is entrepreneurial. Moreover the terminology has taken on a global appeal as evidenced in recent journal articles exploring the state of play in different countries from Austria to Ireland and South Africa to Australia. It is also a distinguishing feature of many cross border collaborations such as The European Consortium of Innovative Universities. Yet we need to exercise caution here for many of these initiatives are linked to a model that is about universities adding economic value and measuring innovation in terms of the commercialisation of knowledge from research.

Key to any discussion about the entrepreneurial university is the nature and extent of stakeholder engagement and how this both directs and determines the way in which universities respond to the external world. This is far more than re-positioning “third mission activity” in any new strategy but how the institution itself becomes open and porous. This recognises that knowledge is no longer generated, maintained and disseminated from within the academy but now has many different sources and configurations. So the Entrepreneurial University is one that is more comfortable with informal networking rather than the formality associated with governance. This is a tension that Michael Thomas refers to in his article. But the wish to be innovative and enterprising has to be acceptable to students who are rightly concerned about the value of their experience. Increasingly we hear talk of students as co-producers of knowledge rather being simply recipients. Mary Stuart, the Vice-Chancellor at Lincoln, in our recent visit described their students as “citizens of the University.” Citizenship in this sense stretches way beyond the confines of the classroom.

Over the years each cohort of participants on EULP gets around to discussing the “we” and “they”. This can have very different meanings and is not simply confined to a distinction about “we” being the change makers and “they” the resistors of change. The latter is all too frequently wrongly attributed to academic colleagues. As Lynn Martin’s article points out, institutions struggle to cope with genuine innovators or entrepreneurs in their midst of whom there are many. They can be portrayed as mavericks that don’t play by the rules. Universities are full of creative people who given the right leadership, freedoms and resources can help shape the entrepreneurial university. The idea of, “cells of innovation” within an institution are to me the very building blocks of an entrepreneurial university. How these are connected is part of the leadership challenge. Indeed I have struggled with the idea of the Entrepreneurial University applying as a label to the total organisation. Universities are not private corporations and need to be mindful of their public role and charitable status.

## What of the future?

So what does this all mean for the future of the entrepreneurial university?

I think what is clear is the following:

- The so-called “turbulent environment” that gave rise to the idea of an entrepreneurial response from universities remains and will, if anything become more problematic. The recent announcement (October 2017) of a review of university funding and student financing being a case in point.
- It is possible to look at new ways of organising universities to unlock innovation across the institution.
- The interest in the opportunity to think and act entrepreneurially will grow locally/regionally as Karen Bryan suggests in her article and internationally as Andy Salmon argues so persuasively in his.
- Responding to both internal and external stakeholders is critical to success.
- Re-thinking how this can respond to the changing needs of students is also important as they are likely to be investing in the process with or without their prior permission. It is also important for changes to address the needs of the missing learners who are increasingly over 19.
- Leading this change process involves a willingness to look at and interpret the future as Bruno Tindemans argues in his contribution. This entails taking managed risks and being prepared to learn from failure.

Simply embarking on structural change that doesn't alter behaviours or culture may be cost effective but won't necessarily deliver a more innovative and responsive organisation.

## The future of entrepreneurial leaders

All of the above indicate to me that there remains a need for a focus to continue these discussions but also one that is also a catalyst for change in the sector. EULP, or Entrepreneurial Leaders as it is now known, can continue to bring senior leaders together to develop their thinking and convert that into actions that will take their organisation forward. It remains a basis for developing a collaborative working and partnerships amongst participants and can foster a network of individuals within and between different organisations.

In a rapidly changing environment there is also the very real challenge around the nature of leadership itself. Professor Gareth Jones, a contributor to the 2017 programme, wrote in an updated preface to his book:

“The pressures on leaders have become greater. They have less time than they used to. They need to assess situations more quickly. This means they must read context and think about how to redefine it faster. If they don't social media will redefine it for them. In addition, the organisational world is increasingly characterised by geographically dispersed, often virtual teams. Leaders must achieve closeness in imaginative ways. They must identify and take advantage of cultural differences using new forms of communication.”

**Rob Goffee and Gareth Jones “Why should anyone want to be led by you? What it takes to be an authentic leader”, Preface Page(X), Harvard Business Review Publications (NY 2015)**

They go on to argue that leadership is situational, non-hierarchical and defined in relation to others in the organisation. Whilst textbooks and courses can advocate techniques for improving leadership skills they fail to look at the individual and personalised nature of what it means to be a successful leader at all levels in an organisation. Perhaps this is why successive cohorts on EULP have placed a high value on hearing first hand from numbers of Vice-Chancellors about their perspectives on leading a university. Such insights, for obvious reasons, are seldom available within the institution.

It is little surprising that many of the past participants have moved on in their careers following their participation in EULP. Although not an objective of the programme it is a bi-product of the change it provokes in individuals. As Paul Gough, one of my contemporaries in the class of 2011, commented:

“Provocative, relevant and timely, I valued hugely my time on the programme. It’s been fascinating to watch the career trajectories of those in my cohort (and their institutions) and living proof of the impact of the course.”

**Professor Paul Gough, Pro-Vice-Chancellor and Vice-President RMIT University, Australia**

It is little wonder therefore that I remain optimistic about the continued value of the Entrepreneurial Leaders programme and the contribution it makes to enabling universities to embrace change. Long may it excite, provide insight and ignite enquiring minds.





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