

HE Matters Managing risk

Summer 2017



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Welcome to *HE Matters*

Universities are operating in an ever-changing and increasingly complex environment. Against a backdrop of a changing policy agenda, economic uncertainty, rapid changes in technology and new demands from students, universities are finding new ways of working. This brings both new opportunities but also new risks.

As auditors at over 70 institutions across the UK, we have a window of insight into the risks facing the higher education sector. Our annual sector risk profile highlighted strategic risks including uncertainties and direct impacts of Brexit, competition impacting medium-term financial sustainability, an increase in the scale of investment and transformation and data security.

In this 'Managing Risk' edition of our regular HE Matters, we explore the new risks emerging across the sector that should be on the agenda for all universities. The issues we explore include:

- **The new risk agenda**, gives an overview of the key trends in risk we've identified in our latest review of university risk registers.
- **Managing risk in major projects**, sets out the building blocks for successfully managing risk in any major project or programme.
- **Cyber risks in higher education**, explores how universities can get to grip with the growing threats that cyber presents.
- **Data, analytics and business intelligence**, asks how universities can turn data risks into opportunities.
- **Managing culture in changing times**, makes the case for putting culture and behaviour change at the heart of transformation programmes.

We hope you find this collection useful in navigating the risks your institution faces. As always, we are interested in any feedback you have on this edition of HE Matters, or ideas for topics you would like to see covered in future editions. Details of how to get in touch with your local higher education contact are at the back.



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The new risk agenda for Higher Education

In the 'new normal' of economic, political and social change, higher education institutions need to navigate new risks. Ian Looker and Ian Roberts reflect on the key risk themes emerging from 2015/16 audits.



The context in which higher education institutions in the UK operate is changing rapidly. With these changes come new opportunities for institutions, but also new risks. As internal or external auditors at over 70 institutions across the UK, we have a window of insight into the risks facing the higher education sector. At the end of our reporting for the 2015/16 audits, we took the opportunity to consider the themes are emerging across the sector, that should be on the agenda for all higher education institutions.

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Government policy and political landscape

Policies including the Higher Education and Research Bill, the overall design of the HE regulatory framework and funding decisions around health and teacher education all add up to uncertainty for universities. The implications of the Teaching Excellence Framework (TEF) on the ability of institutions to raise tuition fees, and potential differences to league table positions, are also causing concern. On top of all of this, the UK's decision to leave the EU has caused uncertainty, largely in terms of student and staff recruitment, research funding and the broader economic impact.



Investment projects and organisational change

Many institutions have embarked upon ambitious organisational change and transformation programmes, including addressing organisational structure and reporting lines, curriculum development, IT and corporate systems, and broader estates programmes. Given the scale of these programmes and their importance to delivering institutional strategy, getting assurance over change and transformation programmes is critical.



Information and cyber security

While IT security has long been an area of concern, the broader risks around information and cyber security have moved up the agenda, particularly in light of the cyber-attack on the Janet network. The new General Data Protection Regulation (GDPR), which will apply from May 2018, has raised the bar in terms of requirements, and also a maximum fine of 4% of total revenue for non-compliance, and will need proper consideration. Over the last year we have seen institutions investing in IT resilience. However, the debate around broader business continuity and crisis management arrangements remains a key consideration for many.



Management information and data quality

The extent of data returns and information available to HE institutions is well known and likely to increase in the next few years. Leading institutions have set up dedicated management information and business intelligence functions, have automated data processes where possible, and are looking in to predictive analytics. However, there is still scope for significant

improvement for many institutions in using this information for more informed decision making and competitive advantage.



Financial sustainability

Over the last year, institutions have generally increased their assessment regarding financial sustainability risks. The risks within

this category range from the impact of student demand patterns and pension deficits, which we have seen categorised more as separate risks, to income generation and profitability-related risks.

A more prominent theme around pensions has also emerged. Institutions have increased their assessment of risks around pensions which is largely linked to USS pension liabilities coming on balance sheet as well as revaluations in the USS scheme. Local government pension schemes

If they are to be sustainable, institutions need to focus on managing risks and building resilience to see them through the uncertain times ahead.



liabilities have increased due to broader economic trends.



Staff engagement and organisational culture

Over the last year, institutions' scoring of this has reduced in terms of potential

impact, but likelihood of issues has become more probable. The link between staff engagement and the satisfaction of students is increasingly recognised. Whilst many institutions are scrutinising the impact of academic staff research and teaching, there is an important balance with maintaining engagement and a positive organisational culture.

The extent of change and transformation programmes at higher education institutions means, for many, organisational culture is being recognised as a key area for management focus.

From an accounting perspective, the introduction of a new Statement of Recommended Practice (SORP), based on the new financial reporting standard FRS 102, has also resulted in greater volatility in financial performance and new liabilities coming on-balance sheet. This means the accompanying narrative to financial statements for explaining the underlying performance of an institution is more important than ever.

While the overall picture is one of new risks and increasing uncertainty about the future, higher education institutions are also proving adept at managing the emerging risk agenda. If they are to be sustainable, institutions need to focus on managing risks and building resilience to see them through the uncertain times ahead.

A full copy of *Managing risk in Higher Education: Higher Education Sector Risk Profile – 2017* can be obtained from ian.d.roberts@pwc.com

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Managing risk in major projects: building blocks for success

With big capital programmes come big risks. Jonathan Roe and Jamie McNuff explain how the secret to success is in building the right foundations and structures from the outset.



Enhancing the student experience. Moving up the league table. Perhaps even securing the next Nobel Prize. Look at any higher education institution targeting one of these and you won't have to dig much deeper to find an ambitious capital investment programme behind the scenes, transforming and reshaping some vital aspect of university life.

Big capital programmes are increasingly part of day-to-day for institutions across the country. And they're becoming increasingly complex. The days of one off, standalone projects are gone; today our institutions are faced with highly complex, interlinked, multi-year programmes. The university estate is at the heart of this shift – spending on it hit £3.3bn in 2014/15¹ – the largest sum seen in a decade.

With growing complexity comes increased risk. It is widely recognised that the management of change is difficult – almost one third of all projects don't meet original business goals, and approaching one half run over budget or over time². It's no surprise then large transformation programmes, including estate-related programmes, are recognised in their own right as institutional-level risks.

In many regards higher education institutions are more vulnerable to these risks. They have intricate systems of governance and complex power and stakeholder bases. And while many will have experience of project delivery, their core purpose is the business of academia, not big ticket construction. So if you're a university embarking on a major capital programme, how should you manage this growing risk?

Firstly, set yourself up for success. When projects do go wrong, the root cause can often be traced back to their initial setup. As they gain momentum, interventions get more difficult and costly and opportunities to influence outcomes are reduced. Prevention is better than cure: building the capability and capacity required to deliver a capital programme – and doing this early – is essential. Many institutions approach this by buying in temporary capacity and capability from third parties, or just adding more people to their existing organisation. While this may be part of the solution, the importance of building sustainable capability in-house and structures aligned to the demands of new programmes should not be overlooked.

Big capital programmes are increasingly part of day-to-day for institutions across the country. And they're becoming increasingly complex.

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1. Sum of residential and non-residential capital expenditure in AUDE Estates Management Report, 2016. Available at aude.ac.uk.

2. Project Management Institute (PMI) Pulse of the Profession 2017. Available at pmi.org.

Secondly, get your governance right. Understandably the system of oversight and scrutiny in higher education institutions reflects a focus on pursuing teaching and research excellence. However, complex capital programmes bring a different set of challenges – they operate at pace, require major decisions to be made quickly, and need individuals with the right skills and experience to ask the right questions at the right time and know when something doesn't look right. The governance system put in place needs to balance the needs of the institution with the needs of the programme – without this, delays and cost increases are inevitable.

Finally, engage power in the right way. The intricate power and influence bases of universities make delivering complex programmes particularly challenging, especially as they inevitably affect areas close to the interests of the most powerful academics.

Capital programmes have the ability to truly transform institutions, but they can derail strategy and damage their reputations too.



A common approach is to put senior faculty staff in programme leadership positions, but this can cause problems of its own. While inevitably engaged, separating personal and programme interests is almost impossible – for example an individual's aspiration to leave a legacy against the need to deliver a defined scope within a tight financial envelope. The organisations that are successful in delivering their capital programmes develop structures that ensure that both the interests of power and programme performance are delivered in unison.

Capital programmes have the ability to truly transform institutions, but they can derail strategy and damage their reputations too. The ones that will be successful will not just recognise these risks, but recognise too that they need to take positive action to address them. Their next Nobel Prize might just depend on it.



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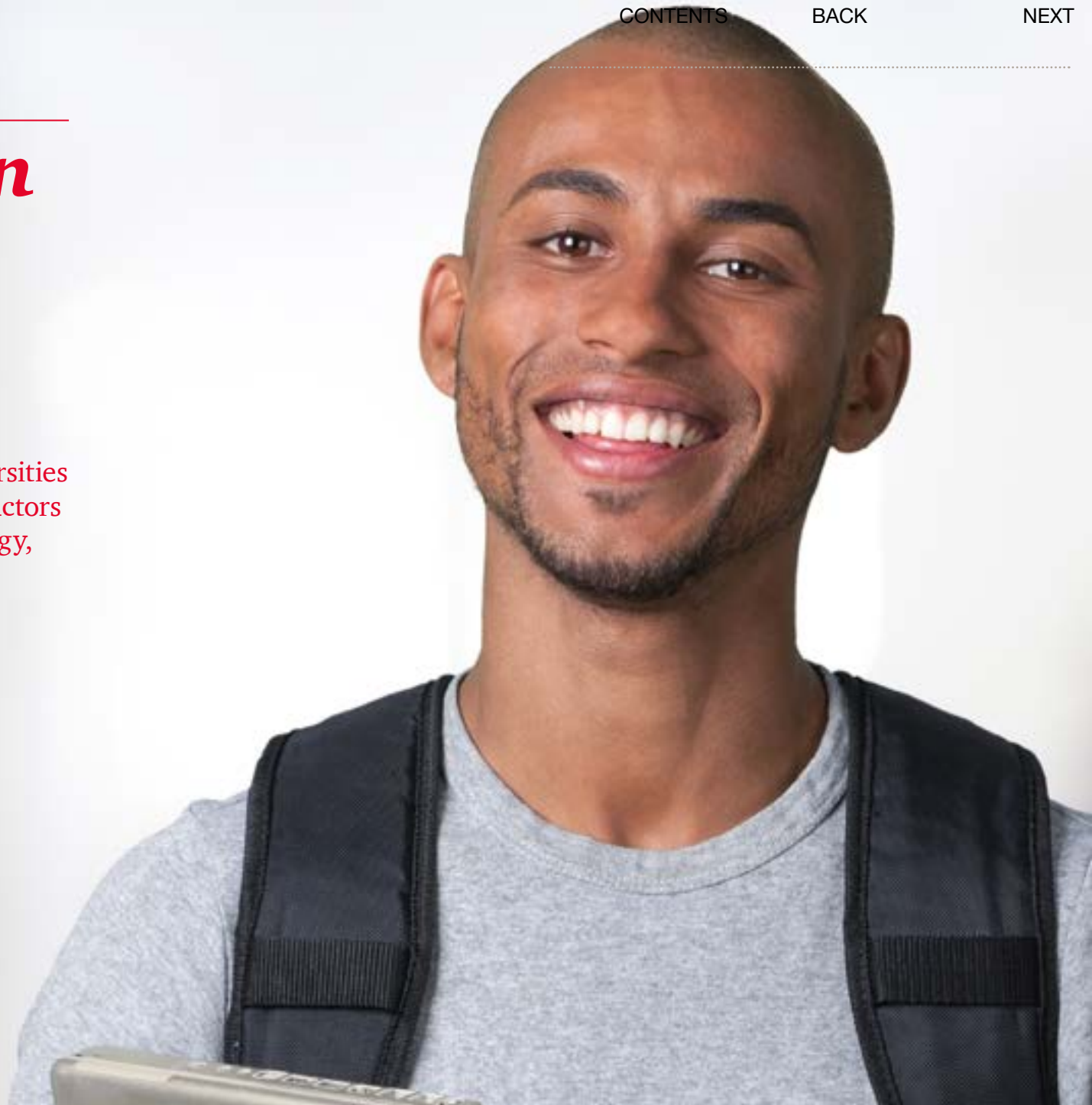
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Cyber risks in higher education

Charlie McMurdie explores how universities tick all the boxes for cybercrime risk factors – and how people, more than technology, are both the problem and the solution.



Technology is now integral to virtually everything we do. The more accelerated the pace of change, and the greater the demands from customers and organisations to roll out technology quickly, the more opportunities there are for cybercriminals – and universities are one of their top targets.

Universities aren't just places of education. They are where most of the UK's cutting edge research happens and where a lot of new technologies are up and running as businesses. Universities also have a massive population coming and going all the time, who want access to technology 24/7 and who want to have it all on the move. On top of that, you've got a nice big population of students who have previously been targeted in scams – the student loans scam was a fairly high profile one – by criminals seeking to defraud them or use them for money muling purposes.

So you've got a large population that's constantly changing, lots of end points that could present opportunities to cybercriminals together with some of the crown jewels of the latest R&D taking place. Given this, how should universities approach cyber security?

Understanding your adversaries

Our recent report Cybersecurity and Privacy Hot Topics said that one of the key points of an organisation's strategic approach to cybersecurity is to 'understand your adversaries'.

There are a number of different types of crime under the cyber banner, from organised crime groups that will look to capitalise on stealing data and turning it into monetary assets, to hacktivists, such as Anonymous, cyberterrorists using cybercrime for funding or market manipulation, and 'state sponsored' attacks, attributed back to various nation states who might be attacking infrastructure or infiltrating and taking sensitive data for espionage purposes.

When you look at those different types of cybercrime, universities are clearly going to be a particular target because of the nature of what they do and the way that they are set up.

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On the inside

One of the notable features we see is that insiders play a role in most breaches that take place. This includes insiders either deliberately engineering themselves into an organisation to gain a position of access, or, often, employees just not following policy and process, perhaps through a lack of awareness or training, and doing something that results in allowing an infiltration or a breach to occur.

While there may be fantastic technology and automated processes being rolled out, it always comes down to individuals making decisions around how that technology should be used and checking that it's safe and secure before it is deployed.

Most breaches are down to companies not checking who's got access to their network and who should have various permissions within that network. If you give a member of staff permissions across the HR database, the finance database and more, you actually make that individual quite a nice target for cybercriminals. If the criminals can compromise that person then they've got lots of access and permissions that they can then use for criminal purposes. It's a very complex picture for those that need to defend and implement security.

Leadership and skills

Key to a successful approach to cyber security, therefore, is remembering that it is a leadership and people issue, not an IT issue. Leadership teams need to know what's going on and have oversight of it to make sure things are dealt with appropriately.

Some organisations are now creating positions where one person has overarching security responsibility covering IT, information, physical security, and people training. If that position then reports up to the board, there is genuine oversight.

Time and time again, people talk about the skills gap. But if you look at universities, they're got cyber skills all over the place. The issue is aggregating and utilising the skill set that's out there. Cyber cannot be considered in isolation, we need to bring together the different skill sets that exist in organisations and share the intelligence.

When breaches occur, the outcry is often not so much about the data loss or breach but why it took so long for the breach to be reported, and how it's done.

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In terms of recruitment this means changing who you're looking for and who you're recruiting, and taking the people with the passion who want to learn and keep up to date, and they can be given the cybersecurity brief on top of their normal skillsets.

Overall, the focus should be less on the skills gap, and more on how universities can invest in the right people in the right way.

In the event of an attack

There are also issues around openness when it comes to security breaches. While there's an incentive for organisations to try to cover up security breaches, we're going to see more breaches being reported and made public. The EU general data protection regulation is soon and significant fines will be imposed if organisations are found wanting by having redundant or irrelevant data or inappropriate security or encryption to protect their data.

The real risk is in not revealing the right information in a timely fashion. When breaches occur, the outcry is often not so much about the data loss or breach but why it took so long for the breach to be reported, and how it's done. If a significant breach is dealt with by providing the correct information in a timely fashion and all the right steps are taken, it's rarely newsworthy. But if the organisation isn't prepared, if they don't know what to do or say, that's a problem.

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Data, analytics and business intelligence: what can universities learn?

Increasing volumes of data present both a risk and an opportunity to higher education. Ian Roberts explores how universities can manage data risks and make the most of business intelligence to underpin decision-making.



The higher education sector produces a significant volume of data, yet the amount of information being analysed and used in a more meaningful way is only scratching the surface of the potential to analyse and predict trends and improve decision making across the sector.

Higher education institutions produce data for internal decision-making or submission to external agencies such as HESA, HEFCE and the Student Loans Company. Data is also increasingly being used by institutions in their marketing for attracting new students. However, data accuracy has never been more important with the forthcoming Teaching Excellence Framework and growing compliance role of the Competition and Markets Authority. The growing role and dependence on digital technology also brings with it new data risks.

The higher education sector produces a significant volume of data, yet the amount of information being analysed and used in a more meaningful way is only scratching the surface.



It is therefore of little surprise that our 2017 sector risk profile for higher education highlighted that management information and data quality are increasingly being recognised as key strategic risks in their own right. Using data and business intelligence to not only actively manage the institution, but to predict the future, will be increasingly important in maintaining competitive advantage.

Our 2016 nationwide survey of higher education institutions explored the trends and levels of maturity around data, the use of analytics and business intelligence. The survey found that:

The majority (83%) of universities are either not using or not aware of any use of predictive analytics in their institution.



41% of universities systematically use data visualisations in their reporting.

Universities generally have a developing to moderate level of maturity around business intelligence.

There is significant variability in the expenditure on analytics and BI and staff resource allocated to the function.



Processes are generally manual, with only 5% of those surveyed having largely automated data functionality.



57% of survey respondents were aware of the underlying controls around data quality for the information they rely on.



Only 17% of institutions access their MI from one system.

Primary responsibility for BI and MI varies from being with finance departments, planning, BI teams and various other departments.



So, what can institutions learn from these results?

Firstly, institutions should ensure there are proper controls and assurance frameworks around the key data sets on which they rely.

Secondly, institutions need to consider management reporting to the executive team and governing body. Is it data heavy and full of words and tables, or does it bring visualisation and insight to give teams the ability to make informed decisions quickly? Data visualisation tools are key enablers to more insightful reporting.

Thirdly, institutions need to explore the growing trends around big data and predictive analytics. Some institutions are already using these tools to improve the student experience and manage student retention and also where to focus their recruitment efforts but there is much more that can be done.

Finally, investment in people and tools makes a significant difference in the capability and capacity of planning and reporting teams. Some institutions have already established business intelligence functions, and we expect many more will do the same in the next few years.

With volumes of data only set to increase, universities need to be on the front foot in terms of managing the associated risk and, more crucially, unleashing the full potential of data analytics and business intelligence.

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Managing culture in changing times

With many universities undergoing ambitious transformation, keeping a keen eye on culture and behaviours is critical. Sam Reed explores the importance of culture in higher education.

The extent of change and transformation ongoing within higher education is giving rise to culture being on the Board agenda more than ever before. Change can bring a heightened risk of having a negative impact on staff and consequently on behaviours. It is therefore important that, on an ongoing basis, leaders continue to measure and assess culture and behaviours to identify whether they have the right culture in order to deliver their strategy.

Striking the balance between organisational culture and maintaining engagement is not an optional extra or a 'nice to have'. Culture spans a whole organisation, from those at Board and Executive Level to those at the lower levels, and as such, it can be difficult to successfully introduce and embed, or in other words, manage your 'behavioural risk'. It also requires staff throughout an organisation to understand and accept the values and practices the organisation espouses. Higher education is no different in this respect, where the link between staff

Striking the balance between organisational culture and maintaining engagement is not an optional extra or a 'nice to have'



engagement and student satisfaction is increasingly recognised.

In the majority of cases, universities have a clear purpose, vision and values that are centred on conducting high quality teaching or research, and in some cases, a combination of the two. As is true with any organisation, to achieve this you need to embed your desired culture as part of everything you do, being clear about communicating the purpose, vision and values and following through on that is vital to achieving your desired organisational outcomes. This becomes even trickier or near impossible when a university is going through huge transformational change.

We often find that organisations have not designed their 'cultural levers', in a way that empowers or enables staff to demonstrate the behaviours that the purpose, vision and values that the organisation intends to drive. In other words, actions, policies, processes, practices and procedures do not always lead staff to behave in a way that is wholly aligned. This often manifests through staff feeling not listened to, a blame culture, a lack of personal accountability and insufficient training for staff. In some cases, the manifestation of misaligned behaviours not only

puts at risk alignment to the purpose, vision and values, but crucially risks the ability to achieve the strategy and strategic objectives.

Risk appetite should help inform the organisations culture and provide clarity and direction to staff on their conduct and behaviour. Do you understand your intended behaviours? How do you measure this? And, does your workforce understand this as well?

Will transformation truly be achieved if culture is not central to your programme? All change must consider the human element. It is not sufficient to provide people with the information (or knowledge) and expect them to behave differently, they must also have the ability (to act) and the motivation too.

Culture can happen by default or you can design it. If universities are to deliver transformation and achieve their strategies, leaving culture to organically evolve is not an option.

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Improving skills and productivity across the regions

The Government's new Industrial Strategy has placed renewed focus on closing the productivity gaps between businesses and regions across the UK. Addressing inequalities in the distribution of skills will be key. Our Talking Points report will explore how local leaders across the public and private sector can make the most of the opportunity of devolution to create a skills system which improves productivity and works for their local economies.

For more information go to <https://www.pwc.co.uk/industries/government-public-sector/education/skilling-up-the-regions-driving-productive-and-inclusive-growth.html>



Global Mobility in higher education

What every HEI needs to know if you have employees who spend time working overseas

A successful global mobility framework will support HEIs with managing any of their employees who spend time working overseas. It is designed to provide a standardised process for managing risk, which is crucial at a time when the global tax and regulatory environment is becoming more complex, which in turn increases the risk of reputational damage.

For more information go to www.pwc.co.uk/globalmobilityinhe



Be prepared – managing risk in higher education

Understanding and managing risk in higher education

Universities are competing in an ever-changing and increasingly complicated environment. This means new ways of working and new challenges, which in turn brings increased risks and potential reputational damage. Do you know the risks HEIs are facing now? And what are you doing to manage them?

For more information go to www.pwc.co.uk/industries/government-public-sector/education/risk-assurance-for-higher-education.html



The 2018 digital university

Staying relevant in the digital age

This second Talking Points from our '2018 University' campaign considers how universities are now competing globally for students, academics and funding and only those that stay relevant and leverage new digital capabilities will benefit in this digital age. Universities who are not equipping themselves to adapt will be left behind. Whether you want to be a digital leader or simply stay relevant, the time to act is now.

For more information go to www.pwc.co.uk/2018university

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