Vice-chancellor Survey 2021

Passing the resilience test

Second edition

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Introduction

As the second year of living through the COVID-19 pandemic draws to a close, the future remains uncertain, due to the continuous emergence of different strains of the virus.

The pandemic has impacted all facets of our lives, particularly among the academic fraternity. Universities and other institutions came to a standstill and were subsequently forced to implement emergency remote teaching and learning measures.
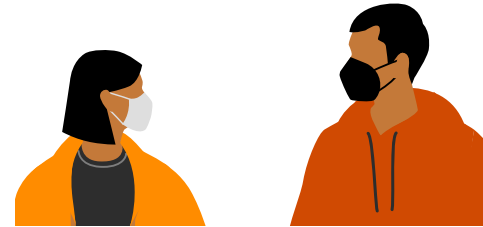
Academic institutions have had to find innovative ways to improve their online curriculums and provide virtual access to learning by introducing technology that ensures students have access to relevant and up-to-date learning material while remaining in a safe study environment and adhering to government's COVID-19 safety protocols.

Socio-economic disparities in South Africa have been exacerbated by the pandemic, not least within the education system. However, the circumstances have also been a catalyst for innovation and finding new ways of teaching and learning, while also expanding access to education to a wider range of learners and students. These changes may well become the foundation for a new, long-distance and inclusive approach to education and provide a practical way to address some of the education challenges we face.

South Africa's higher education sector continues to face new technological, financial and collaborative challenges, which have been further exacerbated by the pandemic. Addressing these challenges is at the forefront of vice-chancellors' minds.

PwC conducted a survey among vice-chancellors of South Africa's 26 public universities in July – August 2021. Fourteen vice-chancellors responded, answering more than 25 qualitative and quantitative questions. This is the second year we have conducted a survey to gain deeper insight into the challenges faced by universities and to ascertain what changes have been made during the pandemic.

In addition to the survey, we conducted a benchmarking exercise based on the 2020 audited annual financial statements of the 15 universities whose information was available at the time of writing. This exercise provides further insights about the operating results of the universities.

This report provides analysis and commentary on the key findings of both the survey and benchmarking exercise.

Key themes

Financial sustainability

Universities need to make every effort to be financially sustainable. Given the constraints faced by the government, it's possible that government grants may remain unchanged or even be reduced. This requires universities to explore alternative sources of revenue and implement further cost containment measures.

Student well-being

The physical and mental health of everyone, particularly students, continues to be impacted by the COVID-19 pandemic. Students are experiencing heightened levels of distress, including anxiety, depression and isolation. Consequently, universities have had to consider reinforcing their support structures to promote student well-being.
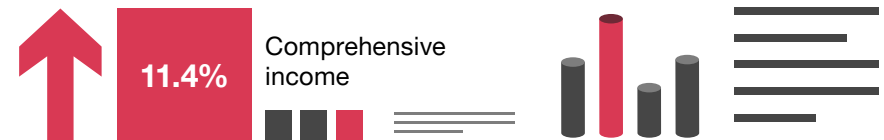
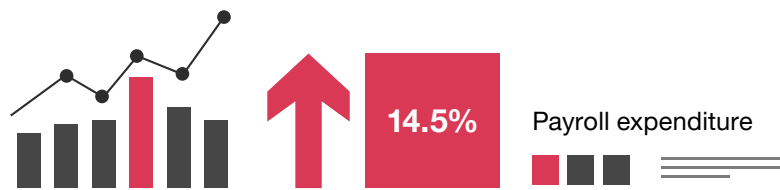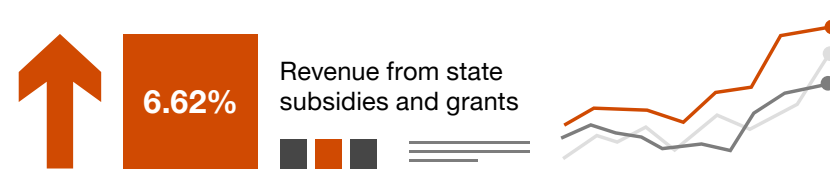### The virtual education environment

Academic institutions have devised a variety of methods in their efforts to ensure students have access to quality education. These include adopting a variety of virtual learning platforms to provide access to the curriculum and online lectures while adhering to government COVID-19 safety protocols.

Results highlights

Analysis of the 2020 audited annual financial statements of 15 universities revealed the following operating results:

3.16% Revenue from tuition and other fee income

6.62% Revenue from state subsidies and grants

14.5% Payroll expenditure

19.4% Net student debtors

Provision for student debtors: **55%** of gross student debtors

11.4% Comprehensive income
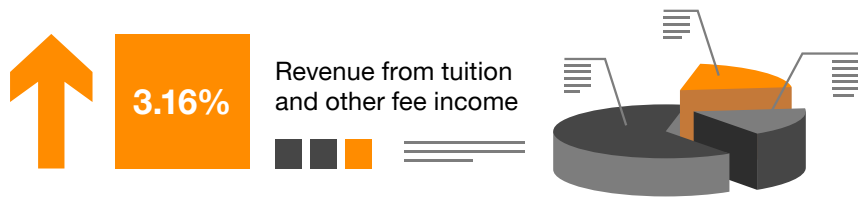
Financial sustainability

Maintaining financial sustainability in uncertain times

The pandemic has had a fundamental impact on higher education institutions and has focused attention on a number of key challenges they face.

Financial sustainability is one of these and will continue to be a challenge for the foreseeable future. Increases in student debt, possible reductions in government grants and increased costs in delivering higher education add to the challenge of achieving financial sustainability.

In order to achieve financial sustainability, universities need to develop long-term sustainability plans with a view to generating additional revenue while implementing cost-containment measures.

Increase in student fees

The Department of Higher Education and Training capped the tuition fee increase for the 2021 academic year at 4.7%, with accommodation fee increases set at 6.7%. This was due to:

• additional costs of providing electronic devices and data

• improvements to learning management systems

• the cost of health and safety

• other costs.

All respondents said there had been an increase in student fees for the current academic year with most indicating an increase of 4%.

Dependence on government funding

Government grants and subsidies continue to be a key source of revenue for universities and comprise approximately 40% of their total revenue.

Universities depend on the timeous payment of grants, delays in which negatively impacts their cash flow.

Included in the grant allocation is an amount for the National Student Financial Aid Scheme (NSFAS). Outstanding student debt at universities stands at approximately R16.25 billion.[1] Much of this debt burden is carried by students from 'missing-middle' households, defined as households with an income of between R350,000 and R600,000 per year.

Our 2020 survey revealed that 74% of respondents expected an increase in government grants and subsidies. In the current survey, 36% anticipate a decrease in government grants and subsidies, 28% expect no change and 36% believe there will be an increase of up to 5%.

Figure 1. Expected changes in government subsidies and grants

Do you expect your institution's revenue from government subsidies and grants to change in the next financial year?

Yes, an increase of up to 5%	36%
No change	28%
A decrease	36%

Source: PwC analysis

1   "UP Higher Education Expert: COVID-19 Has Put the Financial Sustainability of Universities at Risk. Here's What They Should Do Now." University of Pretoria. Last modified 15 November 2021. https://www.up.ac.za/news/post_3023276-up-higher-education-expert-covid-19-has-put-the-financial-sustainability-of-universities-at-risk.-heres-what-they-should-do-now-.
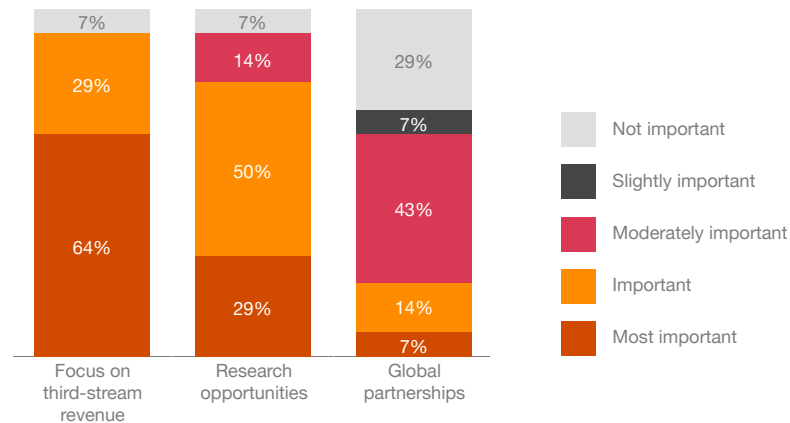
Alternative revenue sources

Given universities' financial constraints, the need for alternative sources of revenue has become critical. We asked respondents how they plan to make up expected revenue shortfalls over the long term and asked them to rank their priorities.

Sixty-four percent of respondents (2020 survey: 93%) ranked focusing on third-stream revenue as most important, 29% ranked research opportunities as their priority and 7% ranked global partnerships as their preference. Respondents also identified rental of university facilities and alumni endowments as additional sources of revenue.

Figure 2. Alternative revenue priorities

How do you plan to make up expected revenue shortfalls over the long term?
Please select all that apply and rank your selection by importance.

Legend:
- Not important
- Slightly important
- Moderately important
- Important
- Most important

Focus on third-stream revenue: 64% Most important, 29% Important, 7% Not important
Research opportunities: 29% Most important, 50% Important, 14% Moderately important, 7% Not important
Global partnerships: 7% Most important, 14% Important, 43% Moderately important, 7% Slightly important, 29% Not important
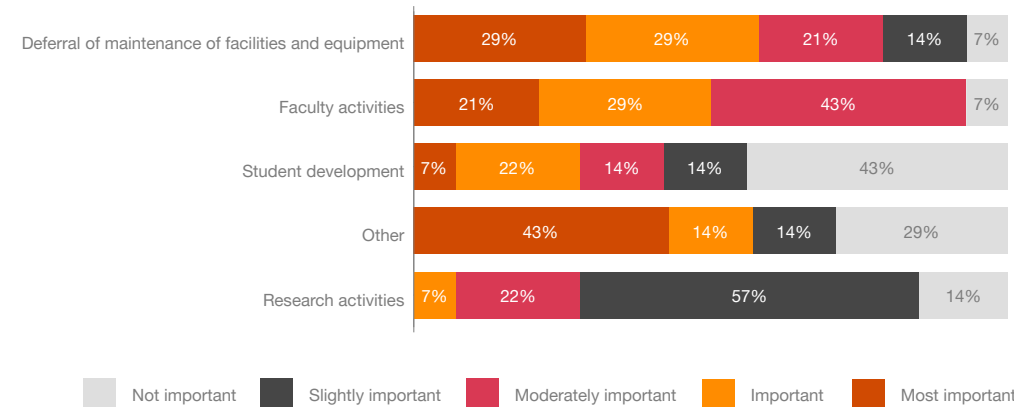
Source: PwC analysis

Implementing expenditure efficiency

Declining revenue has highlighted the importance of cost management and efficient spending. The cost containment measures that universities consider should be of a long-term nature so that they can have a significant and lasting impact. Respondents were asked to indicate the areas in which cost containment measures would be considered. Priority focus areas were deferral of maintenance (29%), faculty activities (21%) and student development (7%). In addition, 43% of respondents identified other areas for cost reductions. These included areas such as support services and overhead costs, extracurricular activities, catering, subsistence and travel, and security services.

The areas least likely to be considered for cost reductions were student development and research activities.

Figure 3. Areas considered for cost reductions

In which of the following areas have you considered cost reductions?
Please rank your selection from most important to least important

Deferral of maintenance of facilities and equipment: 29%, 29%, 21%, 14%, 7%
Faculty activities: 21%, 29%, 43%, 7%
Student development: 7%, 22%, 14%, 14%, 43%
Other: 43%, 14%, 14%, 29%
Research activities: 7%, 22%, 57%, 14%

Legend:
- Not important
- Slightly important
- Moderately important
- Important
- Most important

Source: PwC analysis

Three pillars of environmental, social and governance

While the term 'environmental, social and governance' (ESG) brings to mind issues like climate change and resource scarcity, it provides a far wider and more stakeholder-focused approach to the way in which an organisation is run.

Environmental				Social				Governance	
Climate change	Natural resources	Pollution and waste	Environmental opportunities	Human capital	Product liability	Stakeholder opposition	Social opportunities	Corporate governance	Corporate behaviour
Carbon emissions	Water stress	Toxic emissions and waste	Opportunities in clean technology	Labour management	Product safety and quality	Controversial sourcing	Access to communication	Board	Business ethics
Product carbon footprint	Biodiversity and land use	Packaging materials and waste	Opportunities in green building	Health and safety	Chemical safety	Community relations	Access to finance	Pay	Tax transparency
Financing environmental impact	Raw material sourcing	Electronic waste	Opportunities in renewable energy	Human capital development	Consumer financial protection		Access to health care	Ownership	
Climate change vulnerability				Supply chain labour standards	Privacy and data security		Opportunities in nutrition and health	Accounting	
					Responsible investment				
					Health and demographic risk				

Source: MSCI ESG Ratings Key Issue Framework

ESG in education

Universities need to ensure that their ESG strategies are embedded and integrated into every facet of their operations.

Although most respondents indicated their institutions have taken steps to implement an ESG strategy, and have built KPIs into their annual performance plans, this remains an area for improvement.

64%

Respondents whose universities have adopted and implemented an ESG strategy.

Source: PwC analysis

79%

Respondents whose universities have aligned their tax strategy and tax reporting practices with their ESG policies.

Source: PwC analysis

Tax strategy and tax reporting practices aligned with ESG policy

Globally, tax is no longer seen as a short-term cost factor, but as an instrument to encourage socio-economic cohesion, environmental value creation and long-term prosperity. Nowadays, 'green' fiscal policy and tax governance frameworks are used as an integral part of climate and social inclusion strategies. There is an increasing realisation that taxes are needed to fund and achieve the Sustainable Development Goals.

ESG in practice

- Environment considers, but is not limited to, environmental compliance by a university and how it performs as a steward of nature.
- Social concerns how, among other things, a university manages relationships with stakeholders like employees, suppliers, students and the communities in which it operates.
- Governance deals with a university's leadership, equal pay, internal controls and stakeholder engagement among other things.

Tax of the future

Globally, there is a rapidly changing tax compliance and reporting landscape.

Current trends in tax collection include:

On-request e-audit requirements: An obligation to be able to extract and present accounting/ transactional data in a predefined format on request of the tax authority.

Real-time reporting: Requirement to communicate incoming and/or outgoing transactional data to the tax authority in (near) real-time, usually within a few working days, in a predefined format.

Mandatory e-invoicing: An obligation to exchange invoices/ transactional data electronically using a predefined format, sometimes via a state-run platform.

86%

Respondents who believe their university's tax strategy and tax reporting practices are sustainable and adaptable to meet future tax requirements.

Source: PwC analysis

Student well-being

A focus on student well-being

Prioritising student well-being has become a primary concern for many universities in the digital age.

Since the start of the COVID-19 pandemic, universities have had to find new ways of prioritising their students' welfare. Since effective learning cannot occur without a foundation of good health and well-being, universities have a vested interest in developing solutions to address these challenges.

Studies have found the past academic year to have been extremely challenging, not only because the virtual learning environment is taxing, but also because students have had to deal with the same workload with additional pressures and anxiety caused by the pandemic environment.[2] To alleviate the stress of these challenges, universities have been advised to address ways to incorporate mental health into their entire educational experience – not only for students, but for faculty and staff as well.

One of the ways in which this could be done is to introduce mental health and emotional well-being initiatives throughout the curriculum rather than them being isolated responsibilities of any one department or unit in the university structure.[3]

A recent study by Stellenbosch University found that as many as 12% of university students experience anything from moderate to severe symptoms of depression, while 15% report moderate to severe symptoms of anxiety.[4]

VCs are concerned about student well-being and have structures in place to address the physical and mental healthcare needs of their students.

Most universities have incorporated both counselling and healthcare in support structures to assist students who may need mental or physical healthcare during a period in which remote learning continues to gather pace. In our survey, 57% of respondents confirmed that a career centre has been a vehicle for providing interventions to promote the well-being of students.
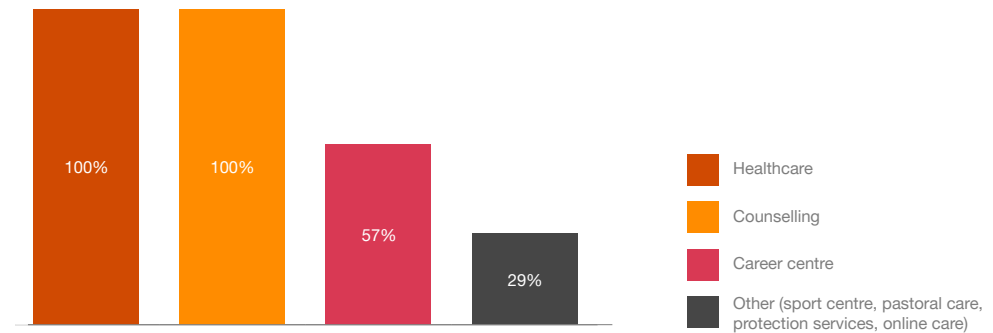
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2   "Mental health issues facing university students"
3   "Assessing the Impact of the COVID-19 Pandemic on Student Wellbeing at Universities in the United Kingdom: A Conceptual Analysis." Frontiers. Accessed 7 November 2021. https://www.frontiersin.org/articles/10.3389/feduc.2020.582882/full.
4   "SA students more at risk of depression and anxiety than elsewhere," https://pharmadynamics.co.za/student-depression/,https://pharmadynamics.co.za/student-depression/

Figure 4. How universities are supporting student well-being

What interventions do you have in place to support student well-being? Select all that apply

- Healthcare: 100%
- Counselling: 100%
- Career centre: 57%
- Other (sport centre, pastoral care, protection services, online care): 29%

Source: PwC analysis

Access to connectivity, technological devices and data

Following the onset of the COVID-19 pandemic, all universities and academic institutions had to rethink the way they teach and embrace digital technologies in order to create sustainable solutions for both their students and staff.

A significant challenge has been catering to the needs of students from remote areas who are faced with additional difficulties such as poor internet connectivity, device access and high data costs. In response, universities identified digitally excluded students and provided them with laptops or other digital devices. They also made large-scale data purchases for students.

While 86% of respondents confirmed that their students have access to internet connectivity, technological devices and data, it is concerning that 14% still face challenges in ensuring effective remote studying solutions for their students. In many cases, this could be the result of students being in remote areas where internet connectivity and/or electricity is not available. To address such challenges, universities may have to look towards increased investment from government or partnerships with the private sector to ensure that no student is left behind.

86%

Respondents who say all students have access to connectivity, technological devices and data to continue with the academic programme

Source: PwC analysis
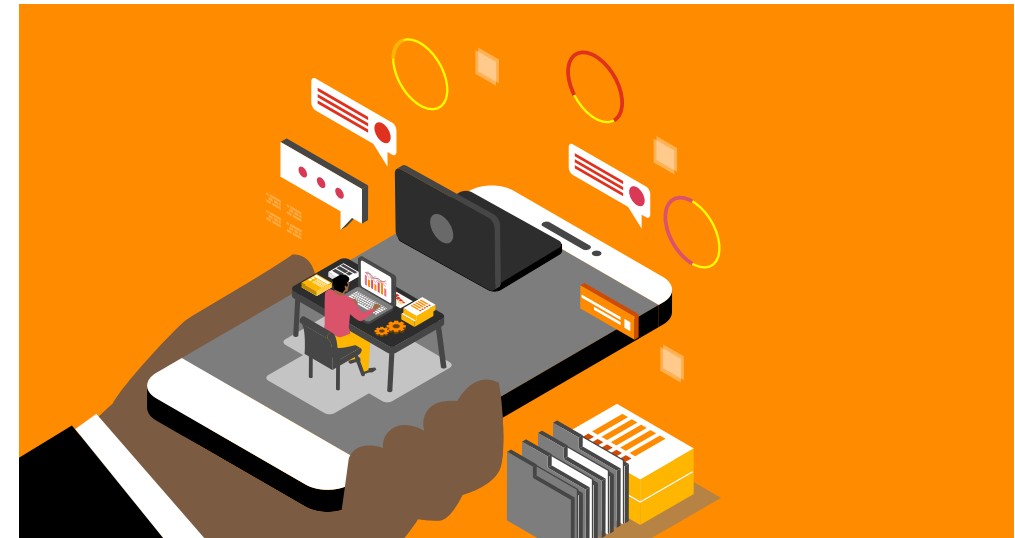
Support provided to students to find employment

Support structures such as career service centres and hosting career events in faculties or departments play an important role in these initiatives. Some universities run graduate recruitment programmes to connect students with prospective employers. These programmes also assist in providing internship opportunities, part-time work, vacation work and workshops, among other things. In light of the pandemic, universities have also started to introduce virtual career events and fairs.

79%

Respondents who say their university provides support to students to find employment after obtaining their qualifications

Source: PwC analysis

Guidance for students and staff regarding their financial affairs

Financial intelligence and the workforce

What is the deal you're offering your staff? Has it changed as a result of the pandemic and what does it need to look like in order to deliver successfully in the future? Do your students and staff have access to guidance on their financial affairs and do you support the development of their financial fitness?

As employees' needs and expectations change, the value proposition needed to attract and retain them changes too – understanding their monetary needs and guiding them to long-term success will support a working environment that is fit for the future.

Financial advice and guidance are provided to students and staff by 79% of universities surveyed. This ranges from guidance on personal budgeting to advice on applying for student loans.

79%

Respondents who say their university provides guidance for students and staff regarding their financial affairs

Source: PwC analysis

Addressing student well-being

There are many ways in which universities can continue to support and address student well-being.

Promoting student well-being is crucial as it helps create a better overall experience for students during their academic term. It is therefore important that universities invest in implementing support structures beyond wellness centres and incorporate mental health interventions across the entire education system from curriculum learning to workshops.

Students need to be provided with information about how they can develop coping mechanisms that can also assist in creating a positive remote learning environment. Furthermore, universities could look towards collaborating with social care services and forming partnerships, either with the Department of Higher Education and Training or the private sector, to assist them in addressing this challenge.

Other interventions that offer value include:

- A more coordinated approach of support between education providers, social services, social care and mental health provision.
- Universities should consider the adequacy of mental healthcare staff to provide effective support.
- A global, sector-wide focus on sharing best practice.
- An investment in technologies and systems that allow for data gathering and analysis to spot warning signs and institute earlier interventions.
- Increased focus on and investment in mental health literacy and training for staff and students.
- Initiatives by universities to assist students address issues such as exam stress, the challenges of studying from home and coping mechanisms to help them balance their studies and their well-being.

Curriculum relevance

Challenges and concerns regarding curriculum relevance

In a constantly changing world, it's imperative that learning institutions stay abreast with the requirements of the workforce. A big challenge faced in many institutions is that curriculums are outdated and not relevant to industry needs. Preparing people for the jobs of tomorrow is no easy task. There are challenges such as the disconnect between current education programmes and the skills that employers need now and in the future.

Curriculums need to be responsive and fluid in order to remain relevant.

At a virtual roundtable held on 2 August 2021, in partnership between Times Higher Education and PwC, it was highlighted that curriculum reinvigoration is needed but that it can't be done with the use of digital tools alone. Rather, it should be worked through the community in order to achieve meaningful change. A large youth population in Africa will create a greater need for skills and jobs as well as robust and well-rounded curriculums that produce work-ready graduates who are adaptable and agile.

The gap experienced by students between the theory taught in university and the reality in the workplace always presents a challenge. An increase in labour market alignment can be created by setting students and industries up for greater success by orienting learning curriculums to the markets of the future and enabling employer participation in higher education.

Another concern is the extent to which students have the skills necessary to be employed in the local private sector and secure jobs that are resilient against economic downturns. The World Economic Forum (WEF) *Global Competitiveness Report 2019* ranks South Africa 102nd out of 141 countries (i.e. in the bottom 30%) in this skills criterion, while digital skills among the active population ranks 126th.

To significantly improve quality and access to education and training, PwC's research into upskilling shows that a change in culture and behaviour is needed. Immediate changes to our skills and education systems should include a shift to lifelong learning pathways, growth in digital education and new funding models for higher education.[5]

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5   South Africa Economic Outlook 2021: A jobless recovery and the need for upskilling, PwC, 2021. https://www.pwc.co.za/en/assets/pdf/economic-outlook/economic-outlook-jobless-recovery-and-the-need-for-upskilling.pdf

Upskilling for Shared Prosperity, World Economic Forum, 2021. https://www.pwc.com/gx/en/issues/upskilling/shared-prosperity/upskilling_for_shared_prosperity_final.pdf

Staff of 2030: Future-ready teaching, Economist Intelligence Unit, 2020. https://edudownloads.azureedge.net/msdownloads/microsoft-edu-staff-of-2030.pdf

"The importance of faculty empowerment in African universities' digital transformations," Times Higher Education, 2020. https://www.timeshighereducation.com/hub/pwc/p/importance-faculty-empowerment-african-universities-digital-transformation

Transforming the curriculum

Earlier this year, PwC's Global Chairman, Robert Moritz, co-authored an article for the WEF on the results of a recent survey on what young people think about the future of work and skills. The poll of 11,000 young people across 136 countries (including South Africa) forms part of PwC and UNICEF's collaboration in support of Generation Unlimited, a global multi-sector partnership to help upskill young people around the world. The survey found that at a global level, today's high school education system is not giving young people the skills they need.

In an effort to ensure that curriculums are transformed, and the skills needed are taught for the future world of work, various universities and learning institutions are engaging in either curriculum upgrading, curriculum review processes or curriculum development activities. When upgrading curriculums, specific elements are purposefully and gradually changed by either seeking collaborative relationships in the units of study or looking for high-impact higher learning to ensure that students are owning their learning experiences.

All respondents in our survey of vice-chancellors confirmed that their institution had put measures in place to transform the curriculum and to make it relevant for the current times.[6]

Figure 5. Measures undertaken to transform the curriculum

Has your institution put measures in place to transform the curriculum and make it relevant for the current times?

- 36% Curriculum review
- 36% Curriculum upgrading
- 28% Curriculum development

Curriculum review

Curriculum development

Curriculum upgrading
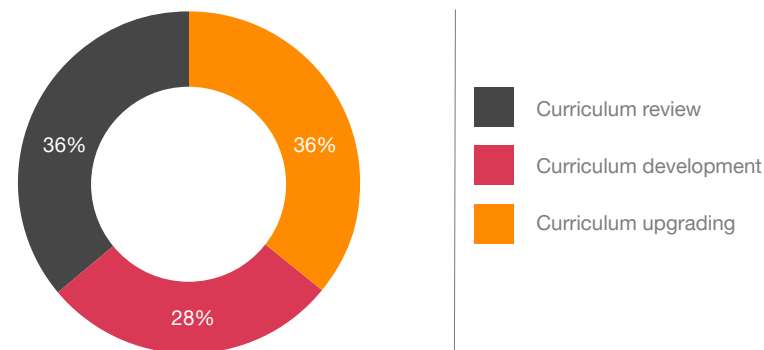
Source: PwC analysis

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6   "A jobless recovery" "Upgrading Your Curriculum." Curriculum Decisions. Last modified 28 August 2018. https://www.curriculumdecisions.com/upgrading-your-curriculum/.

"Why Undertake Curriculum Review?", University of Reading, last modified 5 August 2019, https://sites.reading.ac.uk/curriculum-framework/why-undertake-curriculum-review/.Stutt, Amanda. "Curriculum Development and the 3 Models [+ Free Course Plan Template]." Top Hat. Last modified May 17, 2021. https://tophat.com/blog/curriculum-development-models-design/.

Curriculum review

The majority of universities review their curriculum content annually for relevance

In a recent report sponsored by Microsoft, Sal Khan, founder of education non-profit Khan Academy, suggests we are moving from an era of 'mass education, when students flexed to the pace of the curriculum, to an era where the curriculum can move to the pace of the student'.[7] Curriculums need to be regularly reviewed in order to equip students to be able to deal with the fast-paced challenges and environments they find themselves in and to align curriculums with global issues such as climate change, coding and cyberbullying as well as increasing the teaching focus on social and emotional topics.

Fourteen percent of respondents in our survey review their institution's curriculum for relevance twice a year. This is optimal as industries, technology and the world change so quickly. This also allows universities to respond to the needs of the students and keep curriculums updated and in line with recent developments.

Most respondents (57%) stated that their institutions review their curriculums annually for relevance. This has been the norm for years. Twenty-nine percent indicated that their institutions seldom (every two years) review curriculum content for relevance. This is of concern as the curriculum needs to be fluid and responsive to the needs of the industry and society.

Figure 6 Frequency of curriculum reviews

How regularly does your institution review its curriculum content for relevance?

- 14% ■ Very often (twice a year)
- 29% ■ Seldom (every two years)
- 57% ■ Often (annually)
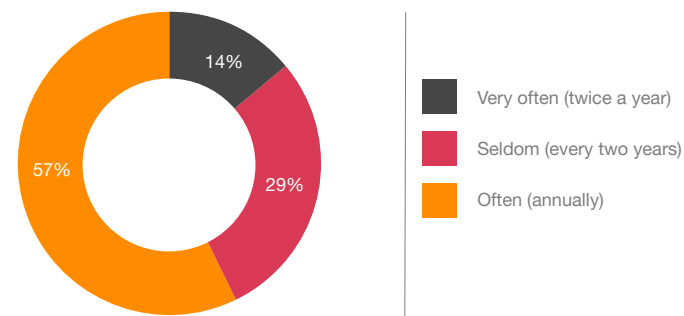
Source: PwC analysis

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7   "Staff of 2030: Future-ready teaching"

VCs are of the view that their curriculum is reviewed on a regular basis and transformed for current times

Sixty-nine percent of survey respondents confirmed that the private sector plays a role in determining curriculum content for their institutions, whereas 31% indicated that the private sector plays no role in determining curriculum content. While we received an overwhelmingly positive response to the question around private sector involvement in shaping the curriculum, upon further investigation, it was established that the response was rather aligned to input from professional bodies rather than those of prospective employers.

69%

Respondents who say the private sector plays a role in determining the curriculum content of their universities

Source: PwC analysis

During the Times Higher Education/PwC Africa roundtable event, a university leader observed that universities need to create centres or hubs that support and promote equity of access, teaching excellence and also conduct curricular enhancement. These hubs/centres can play the intermediary role between the industry and the students to ensure curriculum content is aligned to future needs and allow for collaboration with the private sector. [8]

Key considerations to transforming the curriculum

Curriculum is a critical component and a key enabler of bridging the gap and providing the necessary skills and knowledge for students to be more employable and enter the future world of work successfully.

Some of the key considerations for transforming curriculums include:

1. Labour market alignment – setting students and industries up for greater success by aligning curriculums to the markets of the future and enabling employer participation in higher education.

2. Future-ready curriculums – robust and well-rounded curriculums that ensure work-ready graduates who are adaptable and agile.

3. Upskilling of academics/teachers – upskilling is needed to be able to teach and to incorporate new ideas and knowledge into the curriculum to ensure relevance for students.

4. Review, develop and upgrade curriculums – regular (once or twice a year) reviewing, developing and upgrading of curriculums is needed to make them relevant for the current times.

5. Inclusive and socially relevant curriculums – align curriculums with global issues such as climate change, coding and cyberbullying as well as increase the teaching focus on social and emotional topics.

6. Curriculum collaboration – governments, businesses, students and education providers should work together to build strong and relevant pedagogy and curriculums aligned to the future world of work.

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8   "A jobless recovery."

    "The importance of faculty empowerment in African universities' digital transformations." Times Higher Education. Accessed 7 November 2021. https://www.timeshighereducation.com/hub/pwc/p/importance-faculty-empowerment-african-universities-digital-transformation.

Infrastructure: Digital technology in the spotlight

Opportunities and obstacles in the age of digital disruption

The education sector has had some time to recover from the delays to the 2020 academic year caused by COVID-19. However, the opportunities that were highlighted in 2020 edition of this survey still ring true:

- COVID-19 may have redirected and amplified concerns and actions of universities or brought about a drastic shift in education market demands. It has forced universities to reshape and challenge their interests to guarantee short-term operational continuity through the use of technology while also ensuring long-term institutional viability.[9]

- Traditional methods of teaching are slowly being relinquished with focus now on providing enhanced access to online courses. As part of their preparation for and engagement with this digital disruption, the need for universities to offer new solutions in the area of digital teaching and learning is now urgent.[10]

- In ensuring that all students are able to continue studying remotely, there needs to be ongoing collaboration between telecommunication service providers, international collaborators, other stakeholders and universities.[11] This will provide universities with the opportunity to refresh their strategies to focus on aspects that differentiate them. Ultimately, this will create an environment in which universities can thrive by not only forming international partnerships, but also by reaching a wider number of students, which otherwise would not have been possible.[12]

VCs indicated that they have embraced digital technology and innovation to enhance the student experience.

Figure 7. Digital technologies adopted to enhance student experience

Has your institution embraced digital technology and innovation to enhance the student experience?

Learning management systems (LMS)	29%
Blended learning	29%
Blackboard	21%
Virtual school	7%
Infrastructure	7%
Innovation hubs	7%

Source: PwC analysis

More than three-quarters (78%) of respondents confirmed that their universities were considering alternative ways of utilising facilities in order to provide a blended learning approach.

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9   "COVID-19 and the Digital Transformation of Education: What We Are Learning in South Africa." ResearchGate. Accessed 28 September 2020. https://www.researchgate.net/publication/340604511_COVID-19_and_the_ Digital_Transformation_of_Education_What_We_Are_Learning
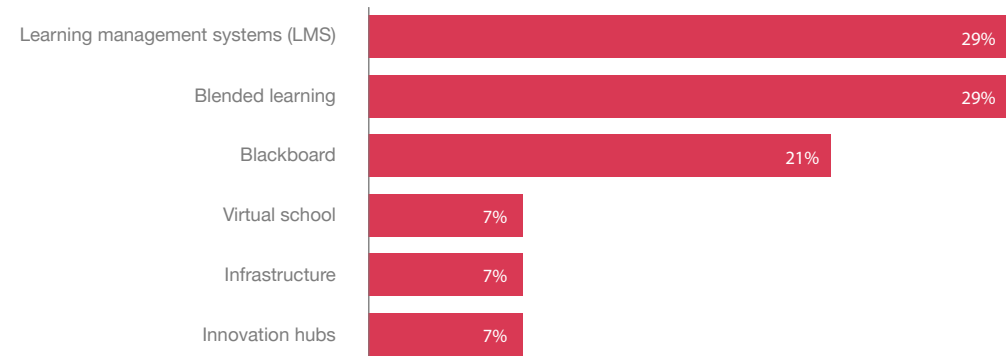
10 "Transforming Higher Education." PwC UK. Accessed 28 September 2020. https://www.pwc.co.uk/industries/ government-public-sector/education/digital-university.html

11 Mhlanga, David & Moloi, Tankiso. "COVID-19 and the Digital Transformation of Education: What We Are Learning in South Africa." Preprints - The Multidisciplinary Preprint Platform. Accessed 28 September 2021. https://www. preprints.org/manuscript/202004.0195/v1.

12 "COVID-19 and the Digital Transformation"

Universities' current approach to blended learning

The demand for providing a virtual learning experience has resulted in universities investing in new systems and technologies. Ninety-three percent of respondents said that they had invested in new technologies in the past 12 months. They also indicated that they would be interested in a single platform to be used across all institutions provided it is donor funded.

The importance of having processes and plans in place to address potential disasters has never been more critical to universities. Most respondents confirmed that they have approved disaster recovery plans in place.

93%

Respondents who say their universities have invested in new systems and technologies in the past 12 months

Source: PwC analysis

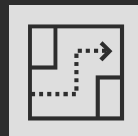Existing facilities were established as technologically advanced university

Blended learning for 2020, this year was fully online

In the process of renewing the facilities to introduce rotational lectures

Students have been provided with devices and data to enable them to connect to training and learning activities
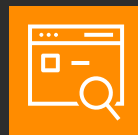
Extended learning spaces for more efficient utilisation

Currently developing blended learner policies and training of academics on blended approach

Developing facilities for e-hubs and making use of lecture capture

Online learning through digital platforms

Virtual training and learning as well as face-to-face for small lab groups

Modernising/repurposing infrastructure to facilitate online learning

Introduced 'hot desks' for booking meetings

Introduction of online engagement and started to innovate around online possibilities
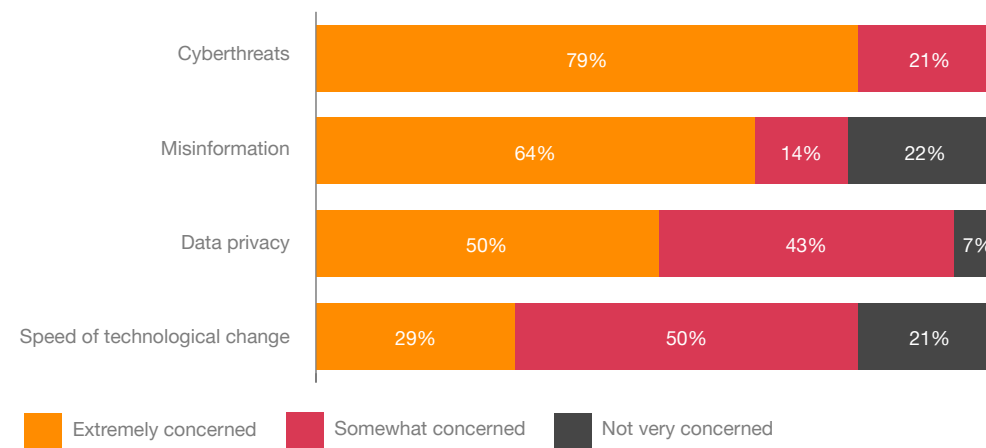
Cyberthreats and misinformation are a major concern – with the increase in digital transformation comes heightened risk

The speed of technological change and increase in demands on universities are increasing the attack surface that cyberattackers can exploit. In our experience of assisting clients in higher education, we have noted that networks and systems have, in most instances, evolved over time to cater for the changing needs from a technological perspective. Institutions have, however, not had the opportunity or budget in many instances to overhaul the architecture of the overall IT infrastructure. The current arrangement, by virtue of having a mix of legacy and current technology patched together with various systems supporting the student experience, do present vulnerabilities in the IT environment.

In addition, data privacy and its impact when things go wrong should not be underestimated. Regulatory enforcement and sanctions are expected to increase in the near future. This should be of particular concern to institutions as large volumes of personal information are processed and potentially required to be stored for long periods of time.

Figure 8. Concern about digital threats

How concerned are you, if at all, about each of the following potential threats to your institution?

Threat	Extremely concerned	Somewhat concerned	Not very concerned
Cyberthreats	79%	21%	
Misinformation	64%	14%	22%
Data privacy	50%	43%	7%
Speed of technological change	29%	50%	21%

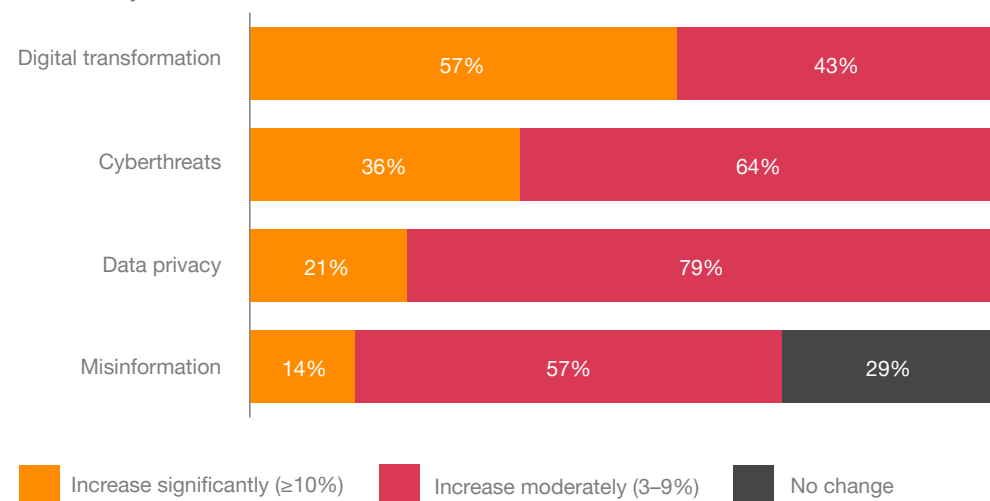Legend: ■ Extremely concerned ■ Somewhat concerned ■ Not very concerned

Source: PwC analysis

Institutions should take cognisance of the fact that digital transformation will create new opportunities as well as cyber-related risks. As such, budgeting and spending on cybersecurity, reviews conducted by appropriately skilled personnel who understand the new technologies and having sufficient technology expertise on oversight bodies within the institution's governance structures will be key to minimising cyberattacks and losses.

Most respondents say that their investment in digital transformation over the long term will increase significantly, while spending on cyberthreats, misinformation and data privacy will only increase moderately.

Figure 9. Digital investment priorities

How do you plan to change your long-term investments in the following areas over the next three years?

Category	Increase significantly (≥10%)	Increase moderately (3–9%)	No change
Digital transformation	57%	43%	
Cyberthreats	36%	64%	
Data privacy	21%	79%	
Misinformation	14%	57%	29%

■ Increase significantly (≥10%)   ■ Increase moderately (3–9%)   ■ No change

Source: PwC analysis

Our cybercrime investigation teams have observed that misinformation campaigns are starting to become more prevalent. In one recent attack, misinformation was spread with inflammatory messages during student registration in order to incite students and cause unrest. This information was spread via social media by malicious individuals impersonating senior officials of the institution.

It is imperative that, together with increased technology adoption, institutions ensure that robust incident response plans, which include dealing with misinformation campaigns as well as disaster recovery plans and infrastructure, cater for the modus operandi currently being used by cyberattackers. In our experience, a significant number of clients across all sectors have been found wanting in these areas.
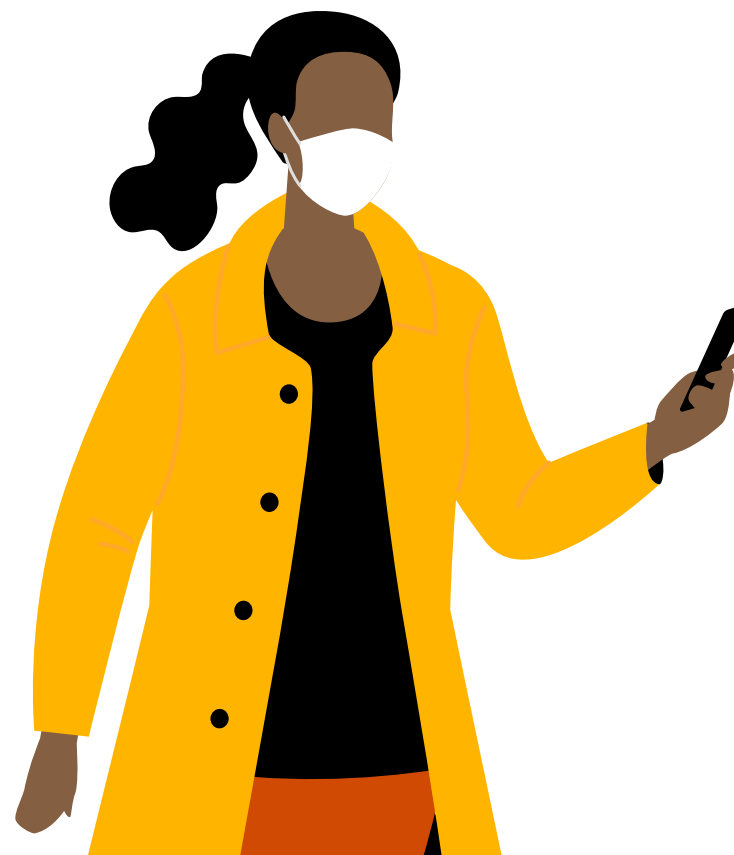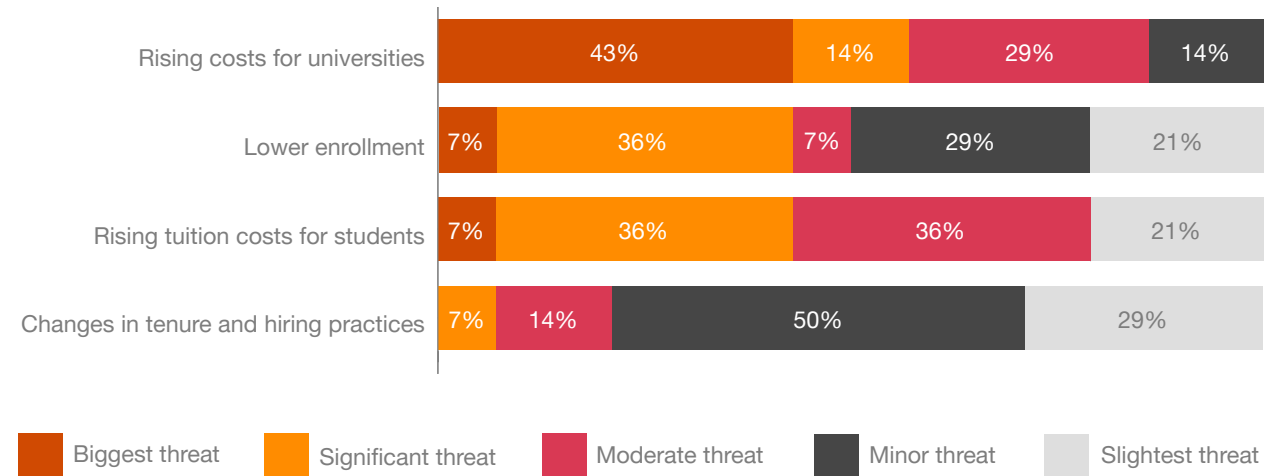
Greatest threats

Vice-chancellors have identified the rising costs for universities as their greatest threat. In addition, the following threats were included in the other option:

- political instability
- rising student debt
- decline in state funding

Figure 10. Threats to the future of education institutions

What do you think is the biggest threat to the future of education institutions as we know them today? Please rank from biggest to smallest threat.

	Biggest threat	Significant threat	Moderate threat	Minor threat	Slightest threat
Rising costs for universities	43%	14%	29%	14%	
Lower enrollment	7%	36%	7%	29%	21%
Rising tuition costs for students	7%	36%	36%		21%
Changes in tenure and hiring practices		7%	14%	50%	29%

Legend: Biggest threat · Significant threat · Moderate threat · Minor threat · Slightest threat

Source: PwC analysis

Key challenges

Strategic priorities

Financial sustainability

- Declining government funding
- Rising student debt
- High operational costs

Strategy and operations

- Stability of the institution
- Continued disruption caused by the pandemic
- Capacity of academic staff

Student experience

- Postgraduate funding for students
- Adequate student accommodation
- Student well-being

Strategic planning

- Improving revenue streams
- Achieving financial sustainability
- Digital transformation

Academic excellence

- Completing the 2021 academic year
- Academic planning and reviews

Well-being

- Improving staff and student well-being

Closing remarks

As a result of the significant disruptions caused by the COVID-19 pandemic, universities quickly adopted new working practices and delivery models. It would be fair to say that universities have passed the test of resilience. In the South African context, many universities can also be applauded for their research activities, which have contributed to the rapid response to the pandemic.

However, as universities start to look beyond the pandemic, the challenges that it exposed have also accelerated the need to focus on opportunities for individual institutions to forge a new way forward based on their unique differentiators, strengths and strategic mission. Those institutions that will be most successful will be the ones that radically shift from the old ways of teaching and learning to new ones, and that places the future student at the heart of their planning and delivery.

The key themes of financial sustainability, the relevance of the curriculum, student well-being and infrastructure highlighted in our survey emphasise the areas that institutions have top of mind in 2021. The paths that universities follow over the next 12 months could very well be the most important in their histories as new areas of strategy and innovation are implemented. This will require bold efforts and stretching traditional approaches, even those applied during the pandemic, as well as a strong focus on collaboration and partnerships, both locally and internationally.
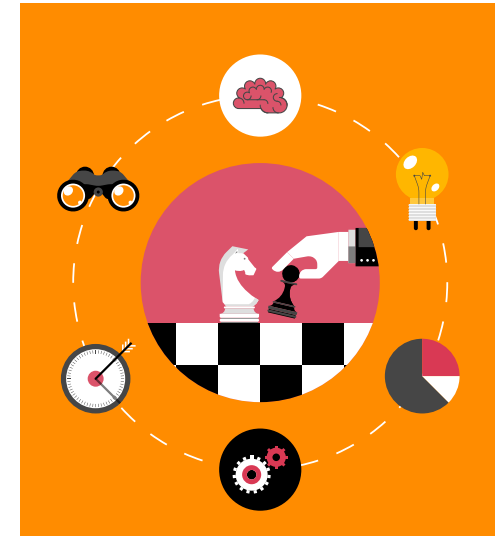
While financial limitations will continue to place strain on the ability of universities to invest widely, it will be critical for investment areas to be prioritised in the short to medium term. Universities have certainly demonstrated their resilience, but must now prove their relevance.

Acknowledgements

We would like to thank all the vice-chancellors who shared their valuable insights with us.

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