View from the top

Academic leaders' and funders' insights on the challenges ahead

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Foreword

Foreword by Judy Verses, President, Academic and Government, Elsevier

In 2024, academic leaders and funders worldwide will face significant opportunities and challenges. There were remarkable technological advances in artificial intelligence last year. The potential of these new technologies will start to be realized this year with new applications and services that support institutions and researchers. In parallel, almost half of the world's population, including 8 out of the top 10 most populous countries, have elections in 2024, bringing further complexity to the regulatory and financial environments. In this challenging context, academic leaders and funders will need to make nuanced decisions that benefit their organizations, researchers and ultimately society at large.

To gain a deeper understanding of the challenges and opportunities faced by academic leaders and funders, we partnered with Ipsos to produce this comprehensive report. Over 100 institutional leaders contributed to the report: academic leaders, including Rectors, Presidents and Vice-Chancellors, as well as CEOs, Presidents and Directors from prominent research funding organizations. I would like to express my thanks to all the participants for taking the time to share their valuable insights and perspectives with us. This research builds on previous Elsevier analyses: *'Confidence in Research: Researchers in the Spotlight'*, *'Back to Earth'* and the *'Future of Evaluation'*.

The report highlights the top priorities of university leaders, including securing funding, ensuring research and educational excellence, improving their institution's impact on society, health and the environment, attracting and retaining talented staff and achieving social equity. In addition, the report outlines the level of preparedness and strategies that universities are adopting to address these challenges, focusing on innovation, agility, partnerships and talent management. The report also identifies regional differences in the perspectives of these leaders.

We hope the insights from the report can be a helpful stimulus for discussion, dialogue and action. Elsevier will distribute the report among academic leaders and funders across the globe, to help raise awareness of the opportunities, challenges and strategies that are being developed. We will also use the findings to help us identify actions that Elsevier can take to support leaders and the research community and we welcome your feedback.

Judy Verses

Executive summary

Universities and funding bodies face many similar challenges as they navigate their institutions to success in a fast-changing world. To tackle today's challenges and be prepared for those to come, it is useful to gather leaders' insights and best practices.

In April to December 2023, Elsevier worked with Ipsos to conduct two phases of interviews with a total of 115 institutional leaders from around the world – 86 held top level leadership positions at universities ('academic leaders') and 29 at research funding bodies ('funders').

The academic leaders and funders interviewed shared their perceptions as to the priority their institutions give each challenge and how well prepared they feel to tackle that challenge. In some cases, there is a gap between priority and preparedness, suggesting an area of concern. See figure 2 for details.

Chapter 1: Enablers

Strengthening the foundations during turbulent times

Read the full chapter: page 15

Securing financing for research is a high priority for the vast majority of academic leaders, but fewer feel they are well prepared to tackle this challenge. Similarly, financing for education is a high priority but leaders feel a little better prepared to address this. Funding constraints impact talent management, with almost all leaders saying they need more funding to attract the best talent.

- 84% say securing funding is a high priority and 66% expect it to become a much greater challenge over the next five years

- 84% consider finance for research a high priority but only 49% are well prepared to address this challenge

- Facilities for research is given a high priority by 78% of leaders but much fewer 31% say they are well prepared to meet the challenge

- Many are concerned about cyber security (including preventing IP theft) and 82% give it a high priority

- 64% say AI governance is a high priority but only 23% are well prepared for this challenge

- Most say retaining talent (80%) and attracting talent (73%) are high-priority challenges, but 93% of academic leaders say they need more funding to attract talent

Chapter 2: Fulfilling the institution's dual mission

New paths to excellence in research and education

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The core functions of research and education are reaffirmed as key priorities. Academic leaders surveyed consider achieving excellence in research and offering excellent education high-priority challenges. In the post-COVID world, institutional culture is still recovering, and in particular, leaders acknowledge the importance of the student experience, with improving student welfare a high priority.

- 89% of leaders consider research a high priority, and 69% believe if the challenges they face are not addressed they will have a severe or major impact on research in the future

- 93% of leaders put a high priority on ensuring research excellence but only 56% feel well prepared to meet this challenge

- 82% of leaders consider educational excellence a high priority and 64% are well prepared to tackle the challenge

Chapter 3: Impact

Demonstrating value and garnering support from society

Read the full chapter: page 62

Alongside research and education, impact emerges as a key priority in the broadest sense. Most leaders consider demonstrating scientific, economic, societal and environmental impact high priorities. But looking at how prepared leaders are to meet some of the challenges, there are some concerning gaps.

- 79% of academic leaders agree a new approach is required for research assessment and 80% set a high priority on demonstrating societal impact.

- 74% of leaders say demonstrating scientific impact is a high priority, and 57% are well prepared to do this, the highest level of high preparedness across the different aspects of demonstrating impact

- 67% consider demonstrating economic impact a high priority and only 30% say they are well prepared for the challenge

- 55% of leaders say their institutions should be most concerned with providing real-world benefits

Emerging challenges

The study also looks at emerging challenges including potential political, technological, and regulatory change and the importance of diversity, equity, and inclusion (DEI). Throughout the report, leaders and funders share their expectations of how their priorities will evolve in the coming years and there are emerging challenges. When asked to reflect on areas where thought leadership is needed most in the next 12 months two topics emerged most strongly: artificial intelligence and climate change.

Funders

- The views of funders appear throughout the report and align with academic leaders on the priorities of research and impact, and they believe the challenges associated with demonstrating impact will become much greater over the next five years.

- To deliver on their top priorities half of funders feel securing finances is crucial and two-thirds see this challenge becoming much greater over the next five years.

Supporting academic leaders and funders

As a global leader in information and analytics, Elsevier delivers insights that help universities and funders achieve their strategic goals. The findings in this report, and the insights academic leaders and funders share with us in many contexts every day, help shape these solutions, so they continue to address real challenges.

Key findings

Before we explore the detailed findings in the main report, we will provide an overview of the key findings.

Universities around the world operate under inherently different conditions, but this study reveals how their vantage points in an increasingly fractious and interconnected world converge in many ways – specifically in the biggest challenges they face and some of the ways they are tackling them. It also highlights the views of funders, whose work is inextricably linked with that of universities.

By exploring these challenges and the strategies developed, institutions are better positioned to advance science and improve health outcomes, thereby enabling a better future.

Approach

	Phase 1: Qualitative	Phase 2: Quantitative
When	The majority of interviews were completed between April and August 2023	September to December 2023
What	Respondents discussed their roles, the challenges they face now and in future, the support they need to address these. Results informed development of quantitative phase survey	Questionnaire aimed to capture data across themes: Funding, Human capital (Talent), Research, Education, Outcomes & Impact, Political, Technological
Who and how	15 in-depth interviews approximately 45mins long with 9 funders and 6 academic leaders via Teams	100 semi-structured interviews approximately 30 mins long with 80 academic leaders and 20 funders via telephone, Teams or Zoom

Academic leaders and funders include people in various leadership roles, for example:

- **Academic leaders:** President, Rector, Chancellor, Vice-President, Vice President, Vice-Rector, Vice Chancellor, Executive Provost and Vice President for Research

- **Funders:** CEO, President, Chairman, General Secretary, Director, Deputy CEO, Vice President

The leaders surveyed in this study encompass a wide diversity of different institutions across five continents. All find themselves facing a complex array of challenges and are being required to innovate and think deeply about their institution, its purpose and future direction.

Leaders' key priorities – an overarching perspective

Proportion who assign high priority to a challenge and proportion say challenge will become much greater in next 5 years

Research
- 89%
- 46%

Funding
- 84%
- 66%

Human Capital (Talent)
- 75%
- 66%

Education
- 75%
- 50%

Outcomes & impact
- 65%
- 53%

Institutional culture
- 49%
- 49%

Political, technological and regulatory environment
- 35%
- 65%

Scale: 0 10 20 30 40 50 60 70 80 90 100

Key: ■ % High priority: priority 8 to 10 on a scale from 0 to 10
■ % say challenge will become much greater in next 5 years
Global = 80
● Americas*
● EMEA*
● APAC*

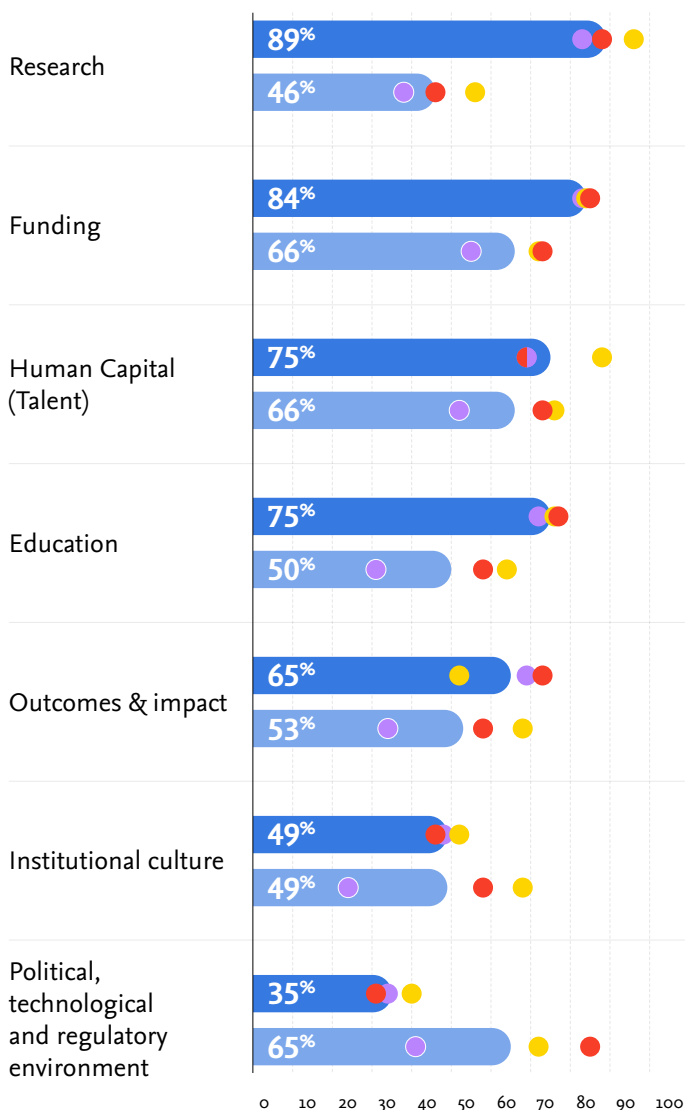* Base sizes for regions are below 30 and provide an indicative read.

Figure 1

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.)

Question: Is there any challenge that you think will become a much greater challenge in the next 5 years?
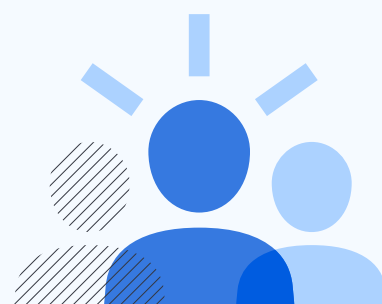
Given universities' pivotal role in advancing knowledge, it is not surprising that the **research** they do remains leaders' top concern (see chapter 2 on page 46 for details). An **overwhelming majority (89%) view research as a high priority** for their institution (see figure 1).

Universities are also under increasing pressure to show the broader **impact** of this research, and **79% agree that means measuring impact beyond traditional metrics** like publications and patents (figure 14, page 65). Institutions are expected to show societal impact[1] and long-term health outcomes, illustrate how they help social mobility and demonstrate how their work aligns with global frameworks like the UN's Sustainable Development Goals (SDGs). It takes time, money, and expertise to craft effective strategies with appropriate performance metrics.[2, 3]

The issue of **funding**, an ever-present concern for most leaders, has the greatest influence on how effectively other challenges can be addressed, and **84% give it high priority** – it is second only to research. Many universities face budget constraints and the constant need to compete for funding. They need money not only to fund research and tuition, but to maintain and enhance their infrastructure: nearly four in five **(78%) leaders consider the provision of facilities a high priority.** This pressure is leading some institutions to embrace financial sustainability strategies, such as lowering pension debts and collaborating with other institutions or the private sector (see chapter 1 on page 39 for more details). **For two-thirds (66%) of leaders, funding is set to become a greater challenge in the next five years;** more in EMEA and the Americas expect this to be the case.

Talent challenges, also closely related to an organization's ability to address other hurdles, are identified as a priority issue for three-quarters of leaders (76%), and much like funding, this challenge is expected to grow over the next five years (67%).

Universities are in an increasingly global battle for talent,[4] and the drive to find and keep the best people extends beyond academic roles to include managers, administrators, and technical staff (see chapter 1 for more details). All contribute to how the institution functions. It is not surprising, therefore, that more than **nine in ten (93%) leaders seek more funding to attract the best talent** (see figure 5 on page 27).

In many countries, **universities now operate in an increasingly challenging demographic context:** declining populations are often correlated with declining student numbers, though student numbers also appear to have been falling in countries with population growth. As populations change, higher education establishments find themselves in fierce competition for dwindling student numbers and many face pressure to increase[5] student body while maintaining quality and managing the impact on their local communities.[6] Others need to work out how to grow within the constraints of their physical location, or how to manage increasing student populations in relatively small cities.

Meanwhile, the demand for keeping up with the latest **political, technological, and regulatory changes is mounting.** Although relatively speaking this is the lowest priority challenge area (35%), it appears to be at a turning point: a substantial proportion **(65%) believe it will become a much greater challenge over the next five years,** with leaders in both EMEA and the Americas expecting more substantial increases here than in any other challenge area. This has the potential to compound funding, talent and research issues in a variety of ways, which are explained in this report.

A more widespread awareness of and sensitivity to the way in which groups within society have been marginalized and excluded over time has been a key political development of the last 10 years.[7] In this context, university leaders increasingly must show how they are addressing the need for social equity.[8] Their institutions are now striving to ensure that research and study opportunities are accessible to all regardless of race, gender or socio-economic status, and to create an inclusive culture where diversity is valued and respected. Overall, **76% of leaders interviewed say ensuring diversity, equity and inclusion (DEI) at their institution is a high priority** (see figure 6 on page 30). Despite this focus, cultural concerns are still considered less significant than areas like research, funding and talent, with just under half (49%) of leaders identifying them as a high priority. See figure 1 on page 7 for details.

Finally, the effects of the **COVID-19 pandemic** are still being felt four years after it started. Leaders say their universities are still dealing with the financial fallout and adapting to new ways of working and learning. In addition, they are managing the transition to open science, the demands of increasing digitalization and the development of artificial intelligence (AI), particularly generative AI and its associated benefits and risks.
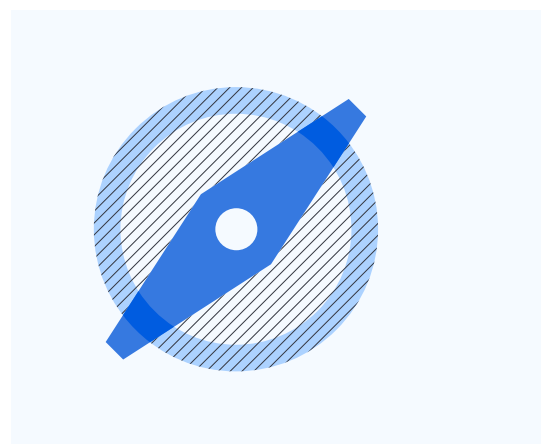
Challenges broken down by priority vs preparedness – the issue matrix for leaders

In this section we dive deeper into each priority, for which there is a range of different issues related to a broad challenge facing their institution (those shown in figure 1). Leaders were asked to rate the level of priority and how well prepared their institution is to address the related issue. The proportion of individuals who selected 8, 9 or 10 (the highest levels of priority and preparedness) on a scale of 0 to 10 was compared to indicate the issues leaders feel best placed to deal with and highlight where they have challenges (see figure 2).

Academic leaders give higher levels of priority than they do preparedness across 32 of the 34 areas they rated. On figure 2, these are the points above the dotted line that runs from bottom left to top right. Leaders feel most comfortable with some of the challenges in the political, technological, and regulatory environment: 'tracking compliance with laws and regulations' and 'navigating the politicization of research' (high preparedness is greater than high priority). There is a degree of comfort with a number of areas, indicated where the gap between preparedness and priority is less than 20 percentage points. This includes aspects of the **core functions of education** ('offering excellent education') **and research** ('ensuring the best research receives grants', 'ensuring research integrity' and 'demonstrating the scientific impact of research'.)

Conversely, leaders' areas of greatest concern (where priority is high, but high preparedness is at least 35 percentage points lower, shown in the top left section of figure 2) are also evident: 'talent attraction and retention', 'demonstrating societal and economic impact' and 'providing research facilities'. These areas are often **differentiating factors for institutions in an increasingly global market**,[9, 10] making it vital for leaders to tackle the related challenges they face.

Challenges – the balance between high priority and high preparedness

Challenges where high preparedness is at least 35ppts less than high priority

Research excellence

Financing for research

Cyber security

Networking with stakeholders

Offering excellent education

Retaining talent

Demonstrating societal impact

Providing facilities for research

Financing for education

Public awareness and understanding

Ensuring diversity at institution

Attracting talent

Ensuring best research receive grants

Demonstrating scientific impact

Demonstrating environmental impact

Research integrity

Ensuring compliance

Demonstrating economic impact

Attracting best students

Improving student welfare

Governance of AI enabled tools

Prioritising resources across programmes

Diversity in research

Attracting int'l students

Providing competitive compensation

Competition for funding

Tracking compliance with laws and regulations

Affordable student fees

Achieving high world academic ranking

Managing rising costs of research

Enabling open science

Managing political issues

Appropriate use of AI in research

Navigating politicization of research

High priority
% 8,9 & 10 (scale 0 to 10)

High preparedness
% 8,9 & 10 (scale 0 to 10)

Above line: high priority greater than high preparedness

Below line: high preparedness greater than high priority

Key: ◆ Funding ■ Research ● Impact ● Political, Tech. & Regulatory Environment ■ Talent ▲ Education ▲ Institutional culture

Base size c.45 respondents. Statements have been taken from various questions across the survey; respondents were shown statements at random and will not have answered every statement on this chart.
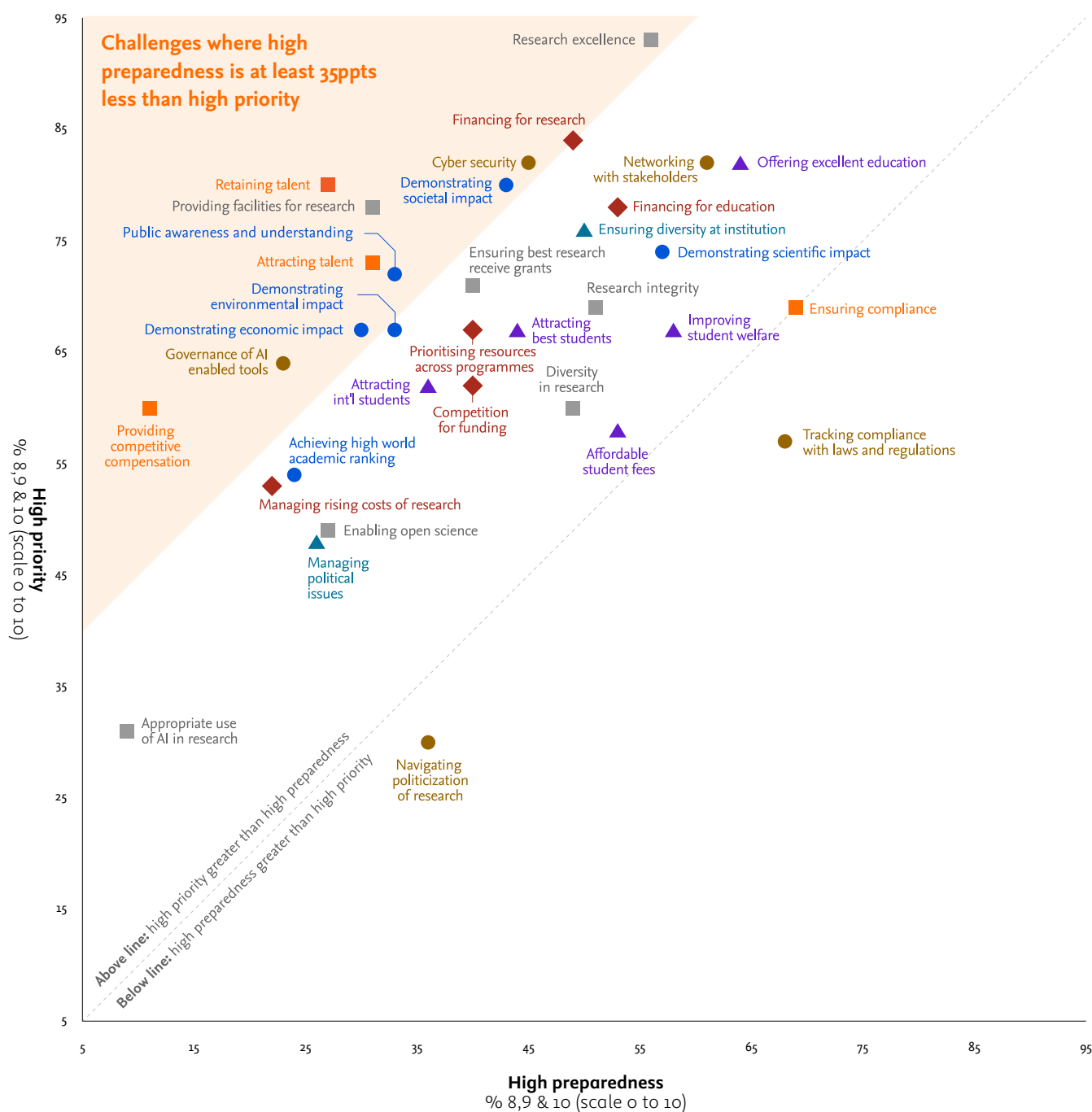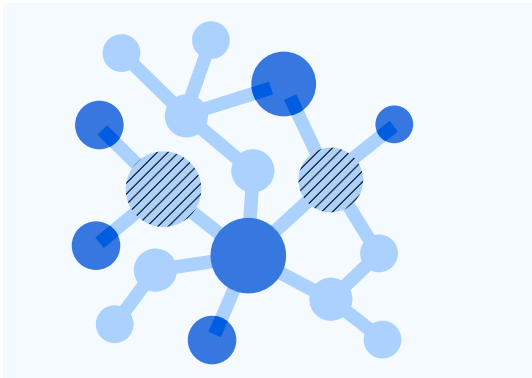
Figure 2

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.)
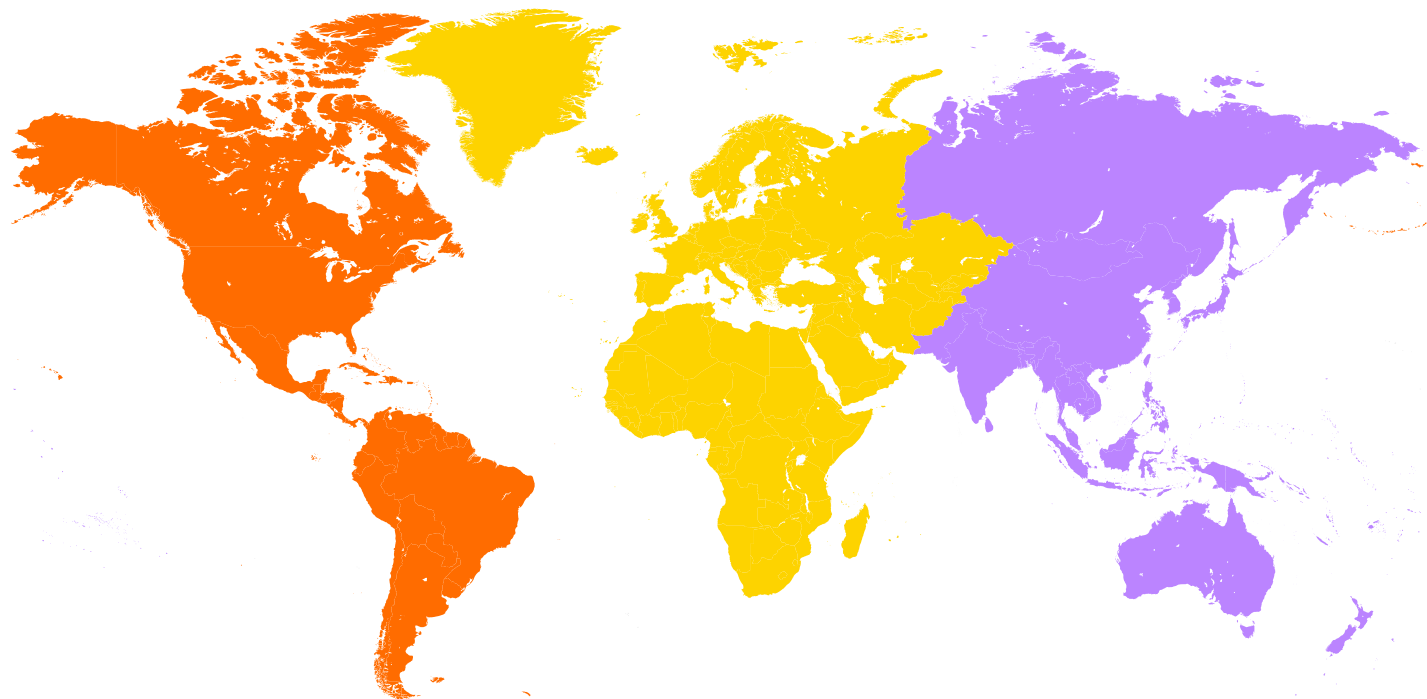
Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months?
Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

The regional picture

Respondents to this study are from a range of countries; we recognize the value in seeing different perspectives and have grouped responses into three broad regions. The scale of the study makes it difficult to include country or other regional splits. This is an area we will address in any future waves. Despite the diversity of response, there are many commonalities in the perspectives of participating leaders from around the world, including the overall gap between priority and preparedness: the high priority that leaders attached to most of these areas does not align with their assessment of their preparedness to address them, which tends to be much lower. Despite global similarities, the geographical location of institutions also has a strong influence on their leaders' assessments of priorities. To see details of the geographical distribution of respondents please see the appendix (page 79).

Americas	Europe, Middle East and Africa (EMEA)	Asia Pacific (APAC)
• Higher perceived preparedness across most areas	• Higher priority for attracting international students, AI governance and research excellence	• Lower preparedness in many areas, including attracting the best students
• Key areas include securing funding, research infrastructure and offering excellent education	• Less prepared to manage rising research costs	• More prepared for attracting and retaining staff
• Lower priority and preparedness for performing well in international academic rankings	• Highest gap between priority and preparedness for AI	• Best prepared for achieving a high academic ranking

The Funder's perspective

Readers should note that survey data are based on responses from leaders of 20 funding organizations and supported by the 9 in-depth interviews. Funders' views generally are similar to academic leaders but there are differences.

All Funders agree "Ensuring research excellence (e.g. advances human knowledge)" is a high priority and a large majority feel well-prepared to meet the challenge. Whilst aligned with academic leaders on priority, more than three-quarters of funders feel well prepared to meet the challenge compared to over half of academic leaders.

14 out of 20 funders say "Securing finances" is a high priority and 10 expect it to become a greater challenge in the next 5 years. As a result, funders consider prioritization of which projects to fund an important challenge and one they are well prepared to manage.

Navigating the political environment, and often the politicisation of research, is a high priority for funders. They place a high priority on networking with stakeholders (government, R&D leaders, media, and other funding bodies), and are well prepared to carry out this task.

Again, like academic leaders, 'Outcomes and Impact' is a high priority for funders and two thirds expect it to become a much greater challenge in the next 5 years. Despite the high priority given by many to ensuring public awareness and understanding of their activities, and demonstrating societal, economic or commercial impact, relatively few funders feel they are well prepared to meet the challenge.

The majority say "Creating an environment conducive to open science" is a high priority and the same proportion are well prepared to address it.

Emerging challenges

Leaders are currently dealing with an array of complex and multi-dimensional issues, and they expect their challenges to continue to evolve. When asked to consider the next five years, leaders foresee a changing landscape and several emerging and intensifying challenges to address.

One of the biggest expected changes is that **political, social and technological challenges** will become more pressing, nearly two thirds see it becoming a greater challenge (see figure 1). Leaders foresee difficulties in maintaining cyber security, managing AI, campus safety, managing demographic change, dealing with the consequence of tax reforms, and meeting demands to solve real-world challenges. They also expect continuing challenges to academic freedom and trust in science.

They expect that the focus on **diversity, equity and inclusion (DEI)** will continue to intensify. As the societies in which many institutions operate become more diverse,[11] leaders can anticipate that pressure on them to ensure that opportunities for research and tuition are open to all will build. Overall, close to eight in ten (76%) leaders interviewed say DEI at their institution is a high priority (see figure 6 on page 30).

Leaders also expect the number of international students their institutions attract will be impacted by shifting student preference from an education abroad to one at home. International students are an important source of income for universities around the world, particularly those from China where there are indications of a decline in students enrolling abroad.[12]

When asked to reflect on areas where thought leadership is needed most in the next 12 months. Their focus is on transformative and globally significant issues and two themes emerged as priorities to address across the board: **climate change** and **AI**. Generative AI has recently entered mainstream use and universities are having to come to terms with its implications and draw up guidelines on issues such as maintaining integrity, managing psychosocial risks and dealing with challenges to health and safety practices.[13] Leaders are also conscious universities are not only expected to play a leading role in monitoring **climate change** but generating scientific-based solutions, developing new technologies and potentially influencing new regulations. Some leaders believe universities will need to reorganize their operations and education to contribute more significantly to solving climate-related problems.

The experience of the COVID-19 pandemic has raised the specter of **future shocks,** such as another pandemic, an economic downturn or a major climate event, in the minds of leaders. They are aware of society's urgent need for solutions from academia, and this is impacting the research agenda. At the same time, they are preparing their institutions, trying to build the resilience to withstand future shocks and mitigating the impacts of their own activities, such as reducing their carbon footprints and evaluating their ties with the fossil fuel industry.

Given that funding, talent and infrastructure are leaders' top concerns today, it is no surprise that leaders anticipate **financial stability** as being a looming challenge. They worry about whether their current business models are sustainable, particularly amid rising costs of living, and how they might evolve to adjust to a changing world.

The overarching challenge for academic leaders will be to address these issues in a holistic but flexible way, in a world where the political, economic, social and environmental contexts can shift around them quicker and more fundamentally than ever before.[14] If they succeed, universities will play a significant role in helping their countries, and the world as a whole, navigate the unprecedented challenges ahead.

Universities' responses to the challenges they're facing take many forms. They are looking to innovate, become more agile and develop new strategies. They are investing in infrastructure, pursuing interdisciplinary research, focusing on talent management and striving to enhance their global standing. These plans and strategies are explored in this report and appear in the **best practice** sections at the end of each chapter.

Explore the full report

The findings of the research are detailed in three main chapters in this report:

- Chapter 1: Enablers – here we explore funding, talent and technology
- Chapter 2: Fulfilling the institution's dual mission – this chapter looks at research and education
- Chapter 3: Impact – in this chapter we delve into the challenges and opportunities of demonstrating impact

Looking to the future, we close the report with reflections from leaders about the challenges they expect to face long-term, and how they might address them.

References

1   Compagnucci, L & Spigarelli, F [Dec. 2020] The Third Mission of the university: A systematic literature review on potentials and constraints (**https://www.sciencedirect.com/science/article/pii/S0040162520311100**)

2   Al-Bahrani, M [22 Dec. 2023] Show your research impact: a guide for academics and researchers (**https://www.timeshighereducation.com/campus/show-your-research-impact-guide-academics-and-researchers**)

3   Muscatelli, A [11 July 2023] Turning the supertanker: How do we steer research universities (even more) towards impact? (**https://www.elsevier.com/connect/how-do-we-steer-research-universities-even-more-toward-impact**)

4   Matthews, D & Hudon, R [04 Jan. 2022] Scientific 'war for talent' heats up as pandemic restrictions ease (**https://sciencebusiness.net/news/scientific-war-talent-heats-pandemic-restrictions-ease**)

5   Higher Education Strategy Associates [2022] World Higher Education: Institutions, Students and Funding (**https://higheredstrategy.com/world-higher-education-institutions-students-and-funding/**)

6   Lem, P [25 July 2023] Japan expected to lose 140,000 students by mid-century (**https://www.timeshighereducation.com/news/japan-expected-lose-140000-students-mid-century**)

7   Umoh, R [23 Dec. 2019] A Decade Of Diversity Highs And Lows (**https://www.forbes.com/sites/ruthumoh/2019/12/23/a-decade-of-diversity-highs-and-lows/**)

8   Murphy, J [27 Feb. 2023] Transparency in Admissions (**https://www.insidehighered.com/views/2023/02/28/greater-admissions-transparency-will-aid-diversity-opinion**)

9   Lee, J. J. & Haupt, J. P. Scientific Collaboration on COVID-19 Amidst Geopolitical Tensions between the US and China. The Journal of Higher Education. [2020] (**https://dx.doi.org/10.1080/00221546.2020.1827924**)

10   Qu T. [27 September 2021] China puts greater emphasis on Beijing and Zhongguancun as it looks to burnish tech credentials (**https://www.scmp.com/tech/policy/article/3150312/china-puts-greater-emphasis-beijing-and-zhongguancun-it-looks-burnish**)

11   United States Census Bureau [12 Aug. 2021] The Chance That Two People Chosen at Random Are of Different Race or Ethnicity Groups Has Increased Since 2010 (**https://www.census.gov/library/stories/2021/08/2020-united-states-population-more-racially-ethnically-diverse-than-2010.html**)

12   Nuwer, R [09 Aug. 2023] Chinese students stay local as favour falls with study abroad (**https://www.nature.com/articles/d41586-023-02162-y**)

13   Weale, S [04 July 2023] UK universities draw up guiding principles on generative AI (**https://www.theguardian.com/technology/2023/jul/04/uk-universities-draw-up-guiding-principles-on-generative-ai**)

14   National Centre for Entrepreneurship in Education [2019] The 2019 NCEE leadership survey: Changes & Challenges Facing University Leaders (**https://ncee.org.uk/wp-content/uploads/2023/09/NCEE-Leadership-Survey-Report-2019.pdf**)

Chapter 1

Enablers

Strengthening the foundations during turbulent times

In order to achieve their missions, universities need certain enablers, primarily including finance, talent, infrastructure and technology. In the turbulent economic environment in which universities operate today, securing financing for research is a high priority for the vast majority of academic leaders, but far fewer feel they are well prepared to tackle this challenge. Similarly, financing for education is a high priority but leaders feel a little better prepared to address this. Funding constraints impact talent management, with almost all leaders saying they need more funding to attract the best talent. In addition to institutional culture – including diversity, equity and inclusion (DEI) excellent research infrastructure with strong cyber and research security are important elements of a robust, efficient, modern university.

Of the academic leaders interviewed:

- 84% say securing funding is a high priority, 66% expect it to become a much greater challenge over the next five years

- 84% consider finance for research a high priority but only 49% are well prepared to address this challenge

- Most say retaining talent (80%) and attracting talent (73%) are high-priority challenges, but 93% of academic leaders say they need more funding to attract talent

- 78% say providing facilities to conduct research is a high priority but less than a third (31%) say they are well prepared to tackle this need

- 82% of leaders identify cyber security as a top priority, but only 45% feel well prepared to tackle the challenge

- 64% say AI governance is a high priority but only 23% are well prepared for this challenge

Funding: the foundation of research and education

Funding plays a crucial role within academic institutions, with funding from governments, research grants, student fees and other sources underpinning both research and education. To achieve their missions, universities need finance.

The headache of financial constraints

The 2020 Elsevier report *University leaders: opportunities and challenges* highlighted the ongoing "headache" that funding causes leaders.[1] More than three years on, many continue to face considerable difficulties in carrying out what they deem as essential duties due to a shortage of financial resources.[2]

These financial challenges are driven by the wider macroeconomic situation. Following the COVID-19 pandemic, the global economy experienced a significant slowdown. According to the International Monetary Fund's *World Economic Outlook*, global economic growth was projected to decrease from 3.5% in 2022 to 3.0% in 2023 and 2.9% in 2024 – much lower than the 2000–2019 average of 3.8%.[3]

While expenditure on research and development (R&D) held up during the COVID-19 crisis – the first time a global recession did not translate into a fall in R&D expenditure – growth was lower than historic rates.[4] It is likely, however, that R&D growth will be suppressed in the future due to lower global economic growth, as R&D intensity (the ratio of GERD to GDP) is generally relatively stable. For example, in the EU it was 2.08% in 2012 and 2.23% in 2022.[5] In addition, inflation spikes have led to soaring commodity prices and rising prices for services, and although inflation is now decreasing, the 2023 global inflation rate was still high at 6.9%.[6]

Coupled with this post-pandemic fiscal instability, geopolitical turbulence – notably including the war in Ukraine, conflicts in the Middle East and other potential flash points such as Taiwan – is impacting budgets, as more government spending has been allocated to defense. This is placing greater pressure on other areas,[7] and it has contributed to an unpredictable economic environment.

> *[The biggest challenges] have all been made worse by normal day-to-day challenges: the rising cost of living, fuel prices, electricity charges and so on."*
>
> — Academic Leader, EMEA

> *Our core funding from government has been decreasing relatively over many, many years, so we rely on other sources of income to subsidize many of our activities. We have a lot of international students, and with geopolitical challenges and economic challenges, it's always uncertain income."*
>
> — Academic Leader, EMEA

Research supports economic growth, so why cut budgets?

Research has shown that increasing investment in research and development is an effective way to promote economic and social progress.[8] Yet not all governments are increasing their budgets,[9] which means many funders have become more selective in how they distribute finance. Instead of boosting research, this limits it.

> *The previous government gave us 1 billion dollars to support research across everybody in the whole sector, and then introduced a new package which has given us less money to do what we need to do, so we've got a funding challenge."*
>
> — *Academic Leader, APAC*

> *The government investment in universities and the way they fund universities in [COUNTRY] has been below [the Consumer Price Index] CPI for many years. The actual cost of universities increases by more than CPI, leaving a funding gap every single year, which has just reached crisis point."*
>
> — *Academic Leader, APAC*

In some countries a reluctance to fund research may be in part due to the rise of populist governments, which can result in an erosion of trust in research and public institutions and a move away from evidence-based policy.[10, 11]

> *The previous government hated universities and... communities became ambivalent towards us, in part because of the international students. We need the general public to appreciate universities so the government will change the funding models."*
>
> — *Academic Leader, APAC*

Reductions in government research funding are happening around the world. A 2024 survey by *Times Higher Education* revealed that "almost no leaders" expect government to help them out if the university is in serious trouble, noting that "Vice-chancellors fear UK sector is hurtling into financial crisis."[12] And in the US, an *Inside Higher Ed* survey revealed that leaders' confidence in the 10-year financial outlook of their institutions is falling.[13]

This makes demonstrating the impact of research output and education even more important (see chapter 3 on page 62).

The impact of funding challenges

Potential significant implications of insufficient funding, like less scientific output and fewer talented researchers staying in science, would be to the detriment of society and human advancement.

> *Research activities may be greatly hindered, and education and academic activities may also be greatly affected. If research expenses are reduced, labor costs to be paid to graduate students participating in research will be reduced. So we cannot accept many graduate students and because research activities cost a lot of money, there is no choice but to reduce the number of research projects."*
>
> — *Academic Leader, APAC*

Many of the academic leaders interviewed for the current study highlighted the difficulties a lack of funding causes for talent recruitment and retention (see page 26 for more details).

> *... we have a financing difficulty, which means that in order to maintain the required quality, with less resources than needed, the system is stretched. We had a ten-year gap where no new positions were available for teaching or for research... It's not because of a lack of talent, but because of a lack of resources to be able to promote these people."*
>
> — *Academic Leader, EMEA*

> *There will be further efficiencies that we will need to make which will include, obviously, reduced FTE across the university."*
>
> — *Academic Leader, APAC*

Academic leaders are determined and looking to adapt to economic realities. When asked what they were doing to address the funding issues they face, leaders talked of financial sustainability initiatives to balance the books, including lowering pension debts, cutting costs and raising money through international student recruitment, are some of the methods being utilized.

In the current study, academic leaders shared their views of four approaches to addressing funding challenges, namely securing finance for research and education, attracting international students, and prioritizing resources.

① The funders' perspective

Funders are facing these financial pressures too. They report that there is generally less money available, which has led to lost income, project delays, disrupted research careers and conflict in how resource is allocated in some cases.

> *Financial challenges may actually be the worst... setting up the annual budget for next year is heavily delayed this year. It's a very difficult and controversial process within the government, so we don't know what will come out for us... looking at the time I spend on issues fighting for money, it certainly is the most important thing I'm dealing with right now."*
>
> — Funder, EMEA

> *We are solely supported by the government... and we haven't had an increase in five years. It limits our ability to better serve researchers and promote the research ecosystem in Canada."*
>
> — Funder, the Americas

Addressing funding challenges – levels of high priority and high preparedness

Key:
■ % High priority: priority 8 to 10 on a scale from 0 to 10
■ % High preparedness: preparedness 8 to 10 on a scale from 0 to 10
Global = 45
● Americas*
● EMEA*
● APAC*

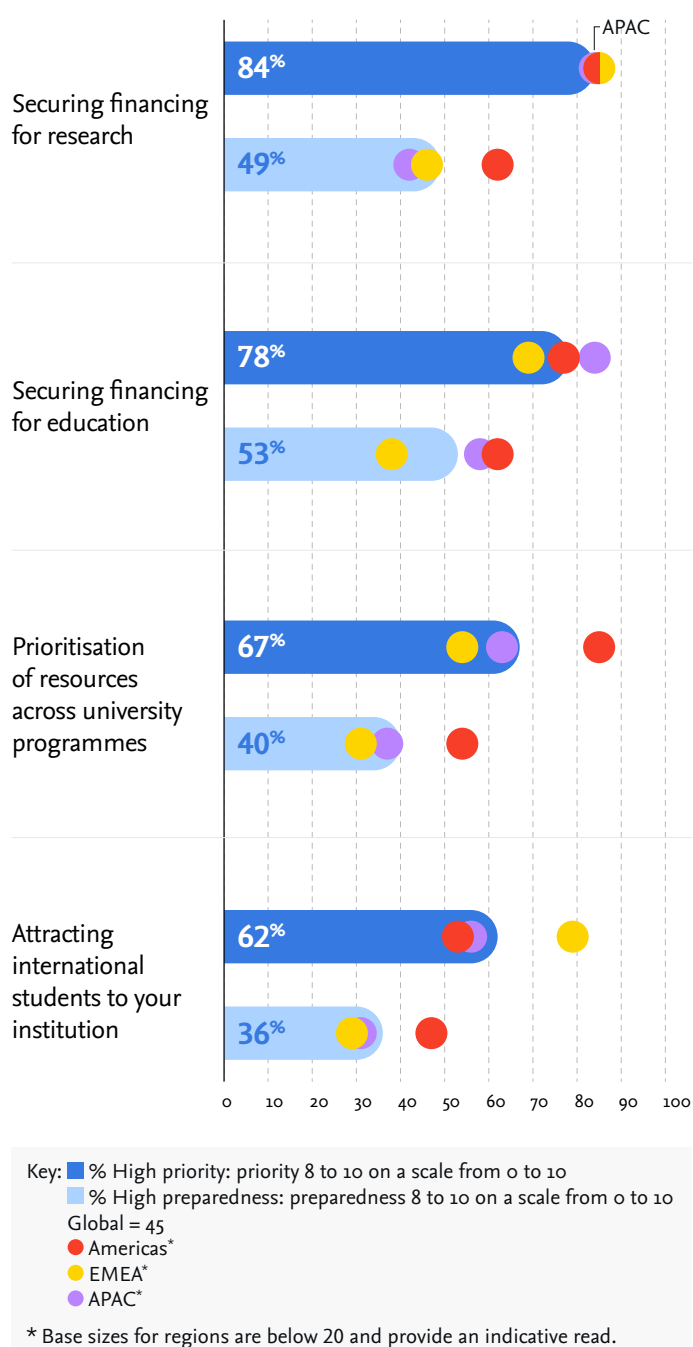* Base sizes for regions are below 20 and provide an indicative read.

Figure 2

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'?

Research funding

84% of leaders say securing funding for research is a high priority

66% expect funding to become a much greater challenge over the next five years

The challenges universities face in securing research funding include increasing competition, limited options and stringent criteria. The COVID-19 pandemic aggravated these pressures, with fewer opportunities in some disciplines and fewer resources available to bid for opportunities.[14]

In the current study, 84% of academic leaders say the challenges around funding are a high priority, placing it second only to the challenges posed by research (89%). These challenges are not new,[15] and leaders don't expect them to end: two-thirds (66%) believe they will grow over the next five years.

The high priority given to this challenge reflects the vital role of research in social progression, bolstering the economy, fostering innovation, and tackling complex local and global societal issues.[16]

> *Failure to raise sufficient funds will lead to a decline in the quality of education and research. This will have a very negative impact on research activities, including a reduction in the number of papers."*
>
> — *Academic Leader, APAC*

Financing for research is an area that around half (49%) of leaders from around the world feel they are well prepared to address. This leaves a notable gap between priority and preparedness, highlighting the concern around the issue of funding. This may of course vary depending on the economic outlooks of particular nations however, where growth is more robust, funding too is generally more secure.

However, this gap varies by region. In the Americas, more (62%) feel assured in their level of preparedness, matching the level of priority they give the challenge, while leaders in EMEA (46%) and APAC (42%) feel less assured. This may relate to the respective economic outlooks in each region and the funding available, with the economy in the Americas better placed and prospects for funding more secure.

The funders' perspective

Most of the funders (four in five) interviewed said that the prioritization of which projects to fund is a high priority

The same proportion also considered themselves well prepared to address the issue. This is encouraging when financial pressures can lead to difficult choices, such as scaling back research, underinvestment in equipment and infrastructure, and less ability to seize new opportunities.
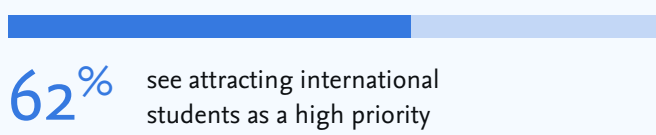
Funding for education

78% of leaders consider finance for education a high priority

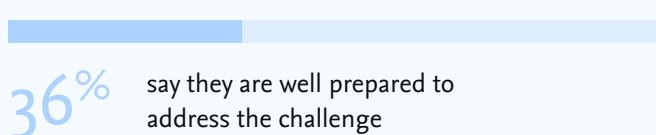**53%** are well prepared to address this challenge

The situation is similar regarding securing finance for education – leaders' second highest priority within funding challenges (78%). Over half (53%) of leaders interviewed feel well prepared to tackle this challenge. Like with research funding, leaders in the Americas feel most prepared to face this challenge (62%), with those in EMEA much less so (38%). Leaders in APAC feel better prepared to secure funding for education (58%) than for research (42%).

These regional differences may suggest that funding for education in the Americas is more secure than that in EMEA, or that the lower priority given to funding for education in EMEA indicates that they feel less pressure than other regions to address the challenge.

Attracting international students

62% see attracting international students as a high priority

36% say they are well prepared to address the challenge

International students are a critical source of finance for many institutions. In their interviews, many leaders highlighted that without the fees paid by international students they would be unable to fund their operations. Leaders also expect the changing geopolitical landscape to have an impact on international students. In recent years, Chinese students have accounted for a significant proportion of the international student population, peaking at 710,000 in 2019. However, with signs of a decline in Chinese students enrolling abroad, ensuring this continues may be changing.[17] This will have a financial impact, particularly in the UK and EU, where international students often pay higher fees.

Our core funding from government has been decreasing relatively over many, many years, so we rely on other sources of income to subsidize many of our activities. With the various challenges around the world, we have a lot of international students with geopolitical challenges and economic challenges, it's always uncertain income."

— Academic Leader, EMEA

About two-thirds (62%) of leaders see attracting international students as a high priority, though only 36% claim to be well prepared to address the challenge.

There is a mixed regional picture here. Attracting international students is more of a priority in EMEA (79%) than either APAC (56%) or the Americas (53%), reflecting the relative importance of this source of funding regionally.

However, leaders in EMEA (29%) and APAC (31%) appear relatively less prepared to address the challenges associated with attracting international students compared to those in the Americas (47%). This difference again suggests that leaders in the Americas are more confident in their institutions' reputations and resources to bring in international students.

There are high levels of inflation and significantly increasing pay demands, but the main source of income isn't changing... It makes that need to diversify the income base absolutely essential. Of course, what people have gone for traditionally is overseas student fees. Because of the academic activities, that is the only thing where there is a meaningful margin which you can use to subsidize other activity."

— Academic Leader, EMEA

However, in isolation, a single source cannot address the fundamental issue of limited resources – a more systemic and holistic approach is needed. This is particularly the case in countries where there are caps on the number of international students, including the UK[18] and Canada,[19] and in those that are considering similar actions, including the Netherlands[20] and Australia.[21]

For those who can increase their share of international students, there will likely be knock-on effects in other areas.

[Attracting international students] will affect educational methods such as new curricula, faculty recruitment, and the entire university management system. First of all, we will need an English curriculum. In addition, we must continue to internationalize with a focus on the [country's] language and culture for overseas students. So it is necessary to strike a balance between those two."

— Academic Leader, APAC

Prioritizing resources amid rising costs is challenging for many leaders

67% consider prioritization of resources across programs a high priority

53% consider managing the rising cost of research a high priority

Securing funding for research and education and attracting international students brings in finance, but this also needs to be managed. For two-thirds (67%) of leaders, prioritization of resources across university programs is a high-priority challenge. Priority is higher in the Americas (85%) than in APAC (63%) or EMEA (54%).

" *Five years ago, it was already clear that our research was costing too much, so we had a financial sustainability issue in our research. I dealt with it by refocusing our portfolio, doing some active portfolio management, setting the right incentives when it came to academic promotion, those kinds of things. They have had a real impact and our research is now about 50% more financially sustainable than it was five years ago."*

— Academic Leader, EMEA

Overall, leaders report lower preparedness to address this challenge (40%). Regional patterns in preparedness reflect priority, with 54% in the Americas 37%, in APAC and 31% in EMEA claiming to be well prepared.

Prioritizing resources is especially important given the rising costs of research, including due to inflation.[22] This is reflected in the current survey: managing the increasing cost of research due to macro-economic conditions is a high priority for over half of those surveyed (53%).

Leaders surveyed talk of challenging conditions, driven by low growth and high inflation increasing costs and reducing budgets, which have led to a decline in the quality of outputs. They expect these funding challenges to continue, with 66% saying it will increase in the next five years. (See figure 1.)

Research infrastructure

Well-functioning and respected research facilities enhance a university's reputation and ability to attract financial support, international scholars and high-caliber teaching staff. Groundbreaking research ensures faculty members are better equipped to stay current with new developments and emerging viewpoints within their fields, thereby leading to innovative breakthroughs and facilitating efficient peer evaluations and analyses.

> *The university needs to invest and have significant infrastructure to be able to perform these services. Research is not a money-making business - it's often a money-losing business, but it's necessary."*
>
> *— Academic Leader, the Americas*

> *Across the university the physical infrastructure is also very weak"*
>
> *— Academic Leader, APAC*

Research infrastructure at the institution level – essentially the buildings and equipment needed to conduct research – accounts for a large proportion of a university's budget, especially given the increasing costs of property and facilities. In the USA, for example, the cost of research infrastructure has increased faster than the research space it covers.[23]

The cost of research infrastructure depends on many factors, including the general economic environment and location. For example, research conducted in cities appears to be more costly, though it is also more productive.[24]

Research infrastructure extends beyond the institution to the wider scientific community. For example, according to the European Commission (EC), research infrastructures (RIs) are "facilities that provide resources and services for communities to conduct research and foster innovation."[25] In this context, collaboration plays a role in how universities connect with the broader RI.
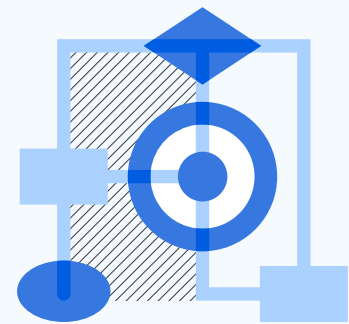
Research infrastructure – levels of high priority and high preparedness
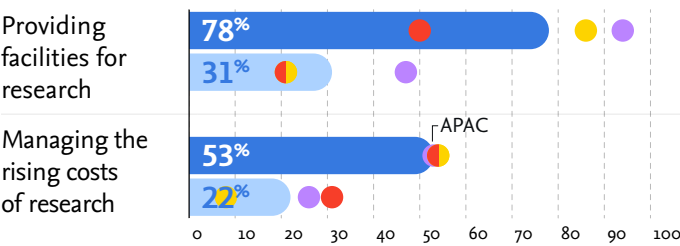
Key:
- ■ % High priority: priority 8 to 10 on a scale from 0 to 10
- ■ % High preparedness: preparedness 8 to 10 on a scale from 0 to 10
- Global = 45
- ● Americas*
- ● EMEA*
- ● APAC*

* Base sizes for regions are below 20 and provide an indicative read.

Figure 3

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.)

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

Providing facilities for research is a priority

Nearly four in five (78%) of leaders surveyed around the world consider providing facilities for research a high priority. But looking at the regional level, there is a clear divide: this is a major priority in EMEA (86%) and APAC (94%) and much less so in the Americas (50%).

> *We have significant facilities' needs on our campus, lots of deferred maintenance that needs to be addressed."*
>
> — *Academic Leader, The Americas*

Despite prioritizing the challenge highly, only 31% of leaders interviewed feel well prepared to provide facilities for research.

Contributing to this may be the European drive to improve research infrastructure. One of the goals set out in the European Research Area Policy Agenda is to "Strengthen sustainability, accessibility and resilience of research infrastructures in the ERA," with the agenda acknowledging the challenges of funding, access and impact.[26]

> *The optimal management of the resources that arrived following the pandemic and European funds... is a big problem, because they are resources that should be used to act on the infrastructure, including on the building component of the university. Carrying out these works... is always very complex and difficult. Even if we have the financing, implementing it into structural works, new laboratories, new classrooms, new departments, new buildings, new student residences is a very complicated undertaking."*
>
> — *Academic Leader, EMEA*

Leaders from APAC also cited specific concerns around lack of facilities, including the time it takes to make changes.

> *For us the issue of research and laboratory facilities is the most pressing. When building a new engineering building I believe that the most urgent priority is to ensure that engineering professors can reflect the facilities and devices they want in the design in advance. It will take about two to three years."*
>
> — *Academic Leader, APAC*

Some academic leaders plan to build more laboratories and academic buildings to attract quality staff and accommodate students. This expansion includes digital transformations, like the implementation of advanced IT tools and enterprise software, which they hope will streamline their administrative processes and make them more efficient. (See page 36 for more details on technology as an enabler.)

> *We are planning a significant investment in our estate and our IT infrastructure around that. As we've built up the cash facilities and our lending facilities to invest, the cost of buildings has increased dramatically in the last two to three years because of the pandemic and supply issues. So we're going to have to be much more innovative in how we develop our infrastructure to support the additional students we have."*
>
> — *Academic Leader, Europe*

Talent: the key to research and education success

> " *With the top talent, we can improve the scientific research environment and obtain a lot of collaboration opportunities. Only in this way can scientific research be really done well."*
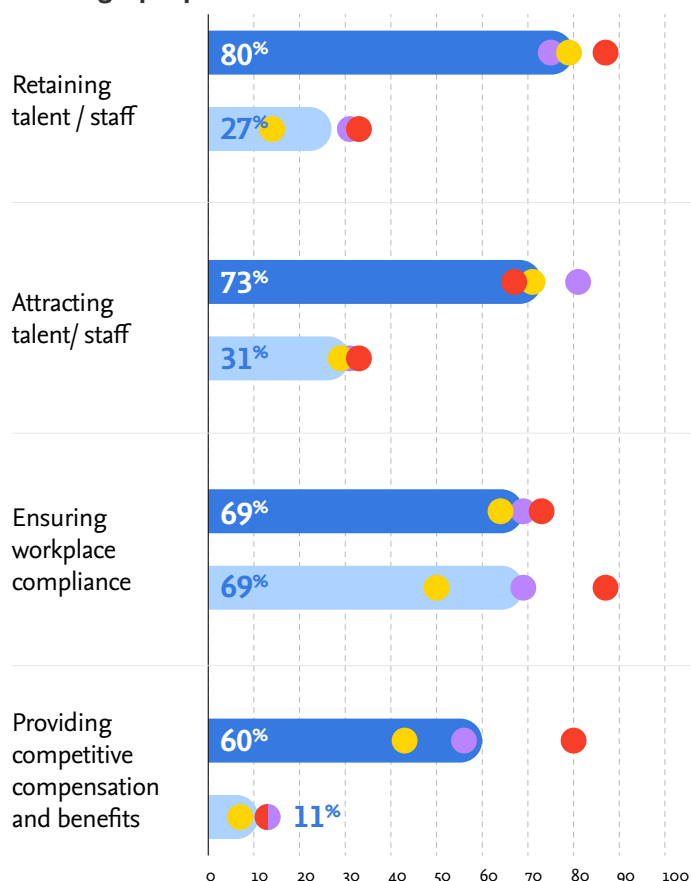>
> — *Academic Leader, APAC*

For any institution to effectively execute its fundamental mission, access to talent is a must. Alongside money, the talent available and the skills they bring are key ingredients of an institution's success.

Three-quarters (75%) of academic leaders surveyed say the challenges posed by talent are a high-priority for them, ranking third after research and funding challenges. Two thirds (66%) expect this challenge to become greater over the next five years (see figure 1 on page 7).

Managing talent – levels of high priority and high preparedness

Retaining talent / staff: 80% / 27%

Attracting talent/ staff: 73% / 31%

Ensuring workplace compliance: 69% / 69%

Providing competitive compensation and benefits: 60% / 11%

Key:
- ■ % High priority: priority 8 to 10 on a scale from 0 to 10
- ■ % High preparedness: preparedness 8 to 10 on a scale from 0 to 10
- Global = 45
- ● Americas*
- ● EMEA*
- ● APAC*

* Base sizes for regions are below 20 and provide an indicative read.

Figure 4

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.)

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

Leaders prioritize (but are less well prepared to) manage talent

73% of leaders say recruiting talent is a high priority

80% of leaders identify retaining talent as a high priority

> *If we have talent the resources will come naturally. Therefore we have to build our own brand so that people will recognize that our university is one of the leaders in the field of higher education.*"
>
> — *Academic Leader, APAC*

Having the right talent enables institutions to fulfil their missions.[27] It also becomes a self-fulfilling prophecy: attracting more talent leads to attracting the best students, more international students and ultimately more interest from stakeholders who provide funding. In addition, to get a return on their research infrastructure investments need to match them with long-term investment in human resources, including data stewards, software engineers and data

Talent recruitment and retention are persistent issues,[28] and today, 73% and 80% of leaders respectively identify them as priorities.

Despite the high priority, relatively few leaders feel well prepared to deal with either retaining (27%) or attracting (31%) talent. In EMEA, just 14% of leaders say they are well prepared to retain staff. This is reflected in the 2022 CUPA-HR *Higher Education Employee Retention Survey*, in which 57% of higher education employees reported considering leaving their jobs within a year.[29]

Funding challenges impair talent management

60% of leaders say the capacity to offer competitive remuneration compensation and benefits is a top priority

11% of leaders are prepared to address this challenge

Part of the low preparedness to address this issue may be rooted in funding and leaders' ability to offer competitive compensation. Over half (60%) of leaders identify the capacity to offer competitive remuneration and benefits as a top priority.

> *We need to attract the best people, so we need be able to remunerate them well and make sure we keep them."*
>
> *— Academic Leader, APAC*

However, only 11% of leaders interviewed believe they are adequately equipped to tackle this issue. Funding challenges may account for the significant gap between priority and preparedness. Available funds determine staff remuneration – which has a large influence on attracting and retaining talent – and an organization's ability to offer competitive compensation. As with so many of the challenges identified by leaders, the money they have determines how well placed they are to address a challenge.

> *I would say with human resources we continue to fight a battle because we don't have enough money as a university to pay our people well. So we continue to lose people despite all of our efforts."*
>
> *— Academic Leader, the Americas*

> *The financial projection for next year is so bad that it will have a serious impact on both research and teaching. This is because we will have to lay people off."*
>
> *— Academic Leader, EMEA*

Institutions in the Americas seem to recognize compensation as critical to attracting talent and have put up the resources to do it. In this region, 80% of leaders see the capacity to offer competitive remuneration and benefits as a high priority, with North American institutions generally more able to offer attractive remuneration than anywhere else in the world.[30] Financially, EMEA and APAC institutions are not in a position to compete with those in North America for talent, although interestingly, even leaders from the Americas feel generally unprepared to offer competitive packages. Indeed, the main reason people employed in higher education in the US say they are considering leaving their positions is compensation.[31] This may be a reflection of the rising cost of living in the country.[32]

Added to this are ongoing staffing issues institutions are facing. The COVID-19 pandemic threw many staffing strategies into disarray.[33] Already overworked, many people used the downtime provided by lockdowns to reevaluate their careers, and many decided to leave their jobs, resulting in a phenomenon Professor Anthony Klotz coined the 'Great Resignation'.[34]

> *People are overworked, stressed and frazzled. Everyone is trying to get everything done. There is a general sense that people are on board with the purpose and the mission. They believe in the goal, that's not the problem, there's just too much to do."*
>
> *— Academic Leader, the Americas*

With the bargaining power shifting back to the employee in this environment, university budgets are struggling to compete with private sector offers.[35] Subsequently, leaders recognize the ability to provide competitive compensation and benefits as a high priority, but it's one that few are well-prepared to address. Staffing issues impact a university's ability to fulfil core missions, such as providing excellent research and teaching. (See chapter 2 for more details.)

> *We struggle to recruit the best people and on the other hand, we risk losing them to industry sectors where they are in high demand. So how does a university remain a community of scholars, but also make sure it's able to attract the top people? If you take an area like generative AI, most of the top people have left academic positions to work in industry. That's true in the top US universities and true at Cambridge, Oxford, UCL and Imperial, from what I've seen."*
>
> *— Academic Leader, the Americas*

Academic leaders need more funding to attract the best talent

93% Agree
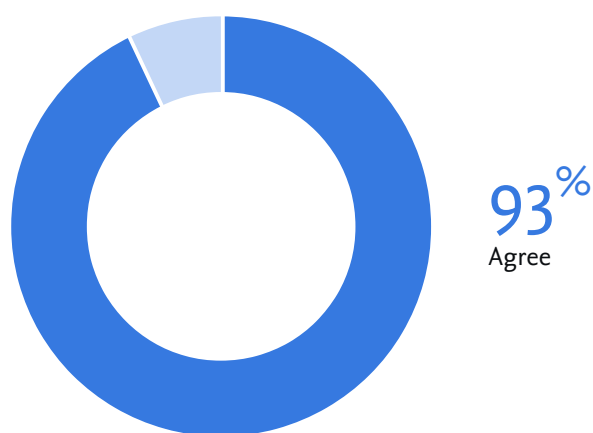
Base size: 80

Figure 5

Question: To what extent, if at all, do you either agree or disagree with the following statement: We need more funding to attract the best talent? This time please answer using a 1 to 5 scale, where 1 means Strongly disagree and 5 means Strongly agree.

> *The financial measures for attracting excellence have had a very strong impact. For example, dozens of foreign researchers have arrived at our university. There were incentives of different types, but essentially, they were financial."*
>
> *— Academic Leader, EMEA*

Funding has a direct impact on talent, the vast majority of leaders (93%) agree they need more funding to attract the best talent. Institutions that have funds to attract and retain specialists tend to produce groundbreaking research and alumni who are highly sought after by the private sector. These outputs can have substantial societal, commercial and scientific ripple effects, and play a role in nurturing the next generation of students and academics. An institution's ability to attract and retain globally recognized talent serves as an indication of its capacity to effectively execute its fundamental mission – and all this begins with talent.

The funders' perspective

Like academic leaders, funders consider attracting and retaining talent a challenge, though many feel adequately prepared to tackle it.

During the qualitative phase of the study, funders expressed that they were struggling with not having enough staff, which impacts their ability to fulfil their legal duties and perform their main tasks. Their top priority within talent challenges is to ensure compliance.

> *[It] is about staff numbers. About 10 years ago, we had about 700 workers providing services... and now we have... 350, which is much less than what we need. This has had a huge impact on the institution, including the analysis of reports, the design of projects, delaying a lot and preventing calls for new proposals."*
>
> *— Funder, the Americas*

Many funders report needing more backroom outsourcing, external and internal collaboration for support with talent challenges.

Funders also invest in attracting talent into the research portfolio they support, sometimes on a large scale.

> *We are making good progress at the moment to reaching the solution [with the diaspora]. We have been thinking about investing resources of 500 million [currency] per year in our country to have agreements and attract [country] researchers that are living abroad. The guidelines for this system have already been formulated.*
>
> *— Funder, the Americas*

An institutional culture that nurtures talent

49% of leaders say institutional culture is high priority

An institution's culture is influenced by many diverse elements, such as its mission and vision, environment, people, information and communication, strategy and leadership.[36] While a complex construct, building a positive culture is considered essential for any institution. For example, in a 2017 paper, US researchers argue that a positive culture fosters an innovative climate that can positively impact society.[37] An institution's culture has an impact on its ability to attract and retain talent and enable its staff to reach their potential. This is reflected in the importance various institutions throughout the research ecosystem attach to culture. For example, the UK Research and Innovation (UKRI) considers research culture vital for achieving its vision of an outstanding research and innovation system.[38]

An understanding of institutional culture that goes beyond intuition can positively feed into strategy and help leaders anticipate problems, minimize potential cultural conflict, and ultimately make more informed decisions. Perhaps in part for this reason, about half (49%) of leaders consider institutional culture a priority.

While looking beyond traditional sources of funding is one method, many leaders appear focused on bringing in the talent required to fulfil their research missions. One approach they shared is to foster young talent.

We have taken very specific actions to recruit young talent in research. We have a program for that, and it has been quite successful and had a very positive impact on our academic culture. We have a tenure track program which we have used to recruit… extreme and great talents internationally."

— Academic Leader, EMEA

These efforts can be supported by programs to help researchers settle into their roles and the offer of attractive career paths and research environments.

We initiated a faculty member peer mentoring proposal development program and tried to scale it. A large number of our professors were trained on proposal development and proposal writing, and put though peer mentoring workshops. That resulted in a larger number of proposals being submitted and more proposals being funded."

— Academic Leader, the Americas

Our main measure is to conduct a very detailed analysis of the needs of different categories of talents, and attract them to work here, based on their different needs. Many world-class scholars have joined our university and have produced good results in education and research."

— Academic Leader, APAC

The most pressing challenge is to somehow breathe life into our structure, an innovative culture, so that we become more resilient and improve our capacity to adapt… I think that's the main challenge for any institution, universities included."

— Academic Leader, EMEA

Understanding and implementing a strong institutional culture can be challenging and resource-intensive and can cause delays in the short term. An understanding of institutional culture that goes beyond intuition can positively feed into strategy and help leaders anticipate problems, minimize potential cultural conflict and ultimately make more informed decisions. Striking the right balance on cultural issues can also help solve challenges around human capital.

Bringing everybody on board towards a common cause has not been as successful as I wanted it to be. I tried to be accessible, interactive and open about my actions and processes. People take time to adapt to a new style of functioning, so maybe they will take more time."

— Academic Leader, APAC

Leaders need buy-in

Any institutional culture must be embodied by the faculty and staff. Having a shared belief that manifests in attitudes, behaviors and commitment influences how colleagues cooperate to solve problems, shape their work environment and, in turn, the overall culture. When everyone is on the same page, managing challenges to institutional culture in the form of DEI issues and changes in the political environment is much easier.

There are several impacts that a lack of a strong institutional culture can have, including lowering morale and engagement.

> *I haven't been successful in getting people to stop doing things. I've been running in various forms since I got here, and I've been here for 6 years. I did a big transformation initiative during the pandemic, integrated a number of facilities and other activities, and I'm ... struggling to convince people that there ... is a problem without really damaging morale."*
>
> — *Academic Leader, APAC*

Leaders identify a flexible culture as key to an institutions to adapt, as stated by Lapina et al., stronger cultures make institutions more effective.[39] It fosters clear and consistent decision-making processes that reflect the institution's values. This builds a positive reputation about the university as a known quantity, and therefore external stakeholders will generally be more receptive to their approaches.

> *Innovation means change and change means you stop doing certain things so you can do other things. Our university has 3,000 workers and some of them will have to stop doing certain things so that they can do others. As people we like to do things the way we've always done."*
>
> — *Academic Leader, EMEA*

This speaks to a need for effective communication: leaders' messages need to be clear and understood by all the stakeholders they need to engage. At the same time, leaders need to be custodians of their institutions' traditions, which can be a balancing act when seeking to innovate. Traditions form part of the existing culture and offer comfort to many stakeholders, but leaders must be able to discern when traditions are no longer relevant.

> *We need to further improve the communications, so that the academic staff at every level fully understand the mission of the university. At present the faculty management understands 90% of the mission, the department management understands 80% and the teachers understand probably only 70%."*
>
> — *Academic Leader, APAC*

Material challenges to a strong culture

However, materially, there are constant challenges that impact a leader's ability to achieve a strong institutional culture. Any initiative to drive a new culture will require investments in professional development, team building and improved communication systems. This requires time and money, both of which leaders report are scarce resources.

Above all, academic leaders identify the need for leadership and a strong vision. Indeed, leaders themselves play a critical role in shaping and managing institutional culture. They see it as their responsibility to promote academic excellence, equity and social cohesion.

> *The first thing is create a vision, create an identity, create a sense of purpose. This university didn't have that. I think most universities in [country] don't have that actually, so... nailing it in and getting people to deal with that... was absolutely key... that was number one."*
>
> — *Academic Leader, EMEA*

If there are frequent changes to the leadership of an institution, there is a risk that the continuity needed to build lasting cultural change will be disrupted by new leaders with new visions. Therefore, investing in the talent needed to rejuvenate an institution's culture is critical to affecting lasting change.

Diversity, equity and inclusion

An important aspect of institutional culture that impacts talent management is diversity, equity and inclusion (DEI). Over three-quarters (76%) of leaders consider this challenge high priority for their institutions.

The high priority of DEI reflects its importance in building a talent pipeline: of all aspects in this area, DEI is the top ranked in the Americas, above attracting and retaining talent. However, with half (49%) of leaders surveyed saying they are well prepared to tackle this challenge, institutions may notice a negative impact on talent management: if they are unable to show how they are addressing diversity challenges, those with a diversity identity or background may turn to institutions that can.

In a 2022 survey by the Higher Education Recruitment Consortium, 81% of job seekers said diversity and inclusion policies were important to them.[40] Most were also keen to see evidence of salary equity (78%), inclusive workplace culture (72%), and a positive reputation from employees (71%) to reflect the employer's commitment to DEI.

Diversity, equity and inclusion (DEI) remains a challenge for wider society: despite much discussion and activity, progress appears to be slow. For example, according to the World Economic Forum's *Global Gender Gap Report 2023*, at the current rate of progress, it will take 169 years to close the Economic Participation and Opportunity gender gap.[41]

Universities have a key role to play in driving progress on DEI in several ways. They are the places where social change often takes root first, they shape the next generation that will enter the workforce, and through research they provide evidence that can help shape policies.

> *We tried to increase the number of female students in various ways. For example, going to girls' high schools to give lectures, inviting parents of female students and the students themselves so we can explain more about the university and building a dormitory for girls, but to no avail. When that did not work we set a special quota system for intake, 140 girls out of 1,000."*
>
> — *Academic Leader, APAC*

Key:
- ■ % High priority: priority 8 to 10 on a scale from 0 to 10
- ■ % High preparedness: preparedness 8 to 10 on a scale from 0 to 10
- Global= 46
- ● Americas*
- ● EMEA*
- ● APAC*

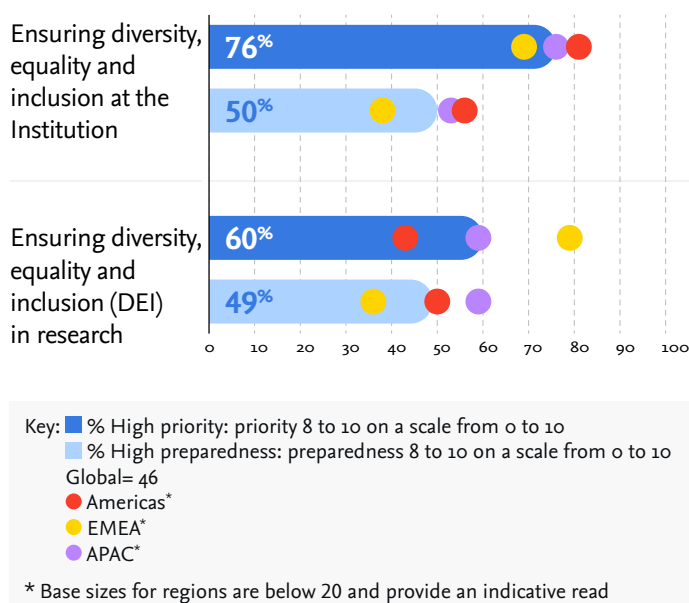* Base sizes for regions are below 20 and provide an indicative read

Figure 6

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.)

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

Similarly, DEI in research projects is coming under increasing scrutiny and is a recognized high priority among 60% of all leaders surveyed, rising to 79% in EMEA. However, only half (49%) of leaders say they are well prepared to address this challenge. Academic leaders in EMEA feel less prepared to tackle this issue although leaders from across all the regions surveyed reported difficulty in meeting government targets of representation of minority groups in research.

> *Every day, there's a new thing coming from government where we have to comply, just because we are a small university, we have ridiculous difficulty to deliver. It is just too much for a small university with only 13,000 students. It is too much of a burden for us to deal with… For students, we have to comply with all kinds of student wellbeing requirements, gender-related issues, reporting. It's just enormous and I think we still have a long way to go."*

— *Academic Leader, EMEA*

> *Staff capability and the issue around increasing the proportion of [ethnicity] staff around the university. We have [ethnicity] staffing plans, but they are not reflected because we just don't have the pipeline of [ethnicity] staff to fill the posts available that we want to create. So it's pipeline issues stemming right back into schools, into our school system. Until the school system is fixed to prepare more [ethnicity] people to be qualified to enter university and be interested in the areas where they don't have a high presence, it's going to be a really difficult problem to fix."*

— *Academic Leader, APAC*

> *This is a challenge faced by universities throughout [country], the number of young and female researchers is not increasing. When recruiting faculty members several open calls have been made for women-only positions but they have not been attracted. On the other hand some say that it is difficult to apply for positions if they are limited to women only. There are times when men apply even if women are given priority. There are many fields where there are no female researchers in the first place and since there is a national policy to increase the number of female teachers, each university has the same issue, so they are fighting over them."*

— *Academic Leader, APAC*

> *I know all the institutes in [country] are trying to increase representation from certain groups and the supply of faculty members isn't necessarily there. It's not necessarily easy to attract people to a small town in rural [region], so that can be a challenge. It's important work, so it's work we have to try and it will come. It will be bumpy and there will be warts, but we have to sort of push through it. It will start to have an impact within a year and more of an impact within two to three years."*

— *Academic Leader, the Americas*

Many DEI challenges are tied to wider societal and political life, and in an era in which such issues are more and more polarizing, an institution's ability to navigate these issues is increasingly important. This requires striking a balance between awareness and consideration of external issues and protection of university values and culture. For example, in British universities, the growing practice of 'decolonizing the curriculum'[42] has generated some debate around impact on academic freedom.[43] These issues are also interwoven with representation at institutions, with diversity within academic materials forming part of the complicated puzzle of ensuring inclusivity at universities.

① The funders' perspective

Many funders consider diversity and inclusion within their institution a high priority, and they are prepared to address this challenge. However, a lack of diversity at the leadership level in the funder's organization can affect a funder's credibility and relevance, and addressing the challenge requires a change in institutional culture towards greater diversity and participation.

> *The challenge of EDI (Equality, Diversity and Inclusion) and research. We identified that it's tough for researchers of different backgrounds to succeed, we see disparities. So we have started doing lots of pilot things, like blinded CVs, in order to try and look at the impact. We also looked across our portfolio to understand the scale of the problem and the different ways we can address it. All of these things are slow and there's a lot of work to be done. But it helps us to start to understand the disparities and challenges within this space."*
>
> *— Funder, EMEA*

Funders are actively trying to address these issues at the research project level too.

> *Another big challenge that we are working on is to reduce gender and racial inequality in our research projects. Even though there are scholarships for master's and doctor's degrees, for both women and men, almost 50% for each, in the most advanced projects with research funding, female researchers are way behind the male researchers, around 30% for women and 70% for men. We are currently drawing up proposals with affirmative actions to correct this distortion, and the same goes for black people and native populations."*
>
> *— Funder, the Americas*

Some funders have instituted scouting programs to help increase variety within the group and get more people to notice the organization. This approach has been effective for supporting top-quality research and bringing interesting people into their circles. Being able to attract talent from often neglected regions, like Africa, has the added benefit of introducing unique viewpoints on research and creating new possibilities.

Funders recognize the importance of DEI and tackling bias in the grant selection process. Bias can lead to ethical concerns and potentially compromise the scientific integrity of the research. Most funders consider ensuring research excellence a priority, and fortunately this is a challenge funders feel well prepared to address. Adopting technologies that streamline selection and ensuring DEI are also high priorities for most.

Leaders are prepared for compliance

69% of leaders say workplace compliance is a high priority

69% are well prepared to address this challenge

A nurturing culture must also be compliant.[44] Lack of compliance can be costly: in 2023, Florida International University had to pay $575,000 in back pay to employees following a compliance review that alleged it had under remunerated female staff compared to their male counterparts.[45]

Leaders surveyed around the world are comfortable with ensuring compliance with legal policies and procedures in the workplace. Nearly seven in ten (69%) say it is a high priority, and a similar proportion (69%) say they are well prepared to address the challenge. The priority is higher in the Americas (73%) than EMEA (39%), however this could be explained by EMEA leaders claiming to be well prepared (61%) to address the issue (see figure 4).

Ensuring compliance is a higher priority for leaders in the Americas (73%), but leaders here consider themselves well prepared (87%) to address the challenges. Priority is comparatively lower in EMEA (64%) and APAC (69%), but like in the Americas, levels of preparedness generally match the level of priority they give the issue (EMEA 50% and APAC 69%). Despite this, institutions would do well to heed the potential penalties of those who are not compliant.

Managing the political, technological and regulatory environment

Political environment

Many universities are now operating in a shifting environment in which their activities and representatives are scrutinized in the context of shifting political situations. Political polarization can lead to increased competition for resources among different groups and causes and can potentially influence the types of projects and research that receive funding.

This can put academic institutions in a bind: on one hand they seek to uphold freedom of speech and academia, but on the other they wish to court funders and therefore look to align to their values. One example of this was the wave of donors that pulled their support of US universities in 2023 following their responses to the conflict in the middle east.[46]

Managing change and the tensions associated with ensuring academic freedom are more fraught when institutions have a diverse range of stakeholders: faculty, staff, students, alumni and external partners.

Political, technological and regulatory challenges — levels of high priority and high preparedness

Cyber security (including preventing IP theft): 82%, 45%
Networking with relevant stakeholders: 82%, 61%
Tracking compliance with laws and regulations: 57%, 68%
Governance of AI enabled tools: 64%, 23%
Appropriate use of generative artificial intelligence in research: 31%, 9%
Managing political issues in a more polarized world: 48%, 26%
Navigating the politicisation of research: 30%, 36%

Key: ▦ % High priority: priority 8 to 10 on a scale from 0 to 10
▦ % High preparedness: preparedness 8 to 10 on a scale from 0 to 10
Global = 44
● Americas*
● EMEA*
● APAC*

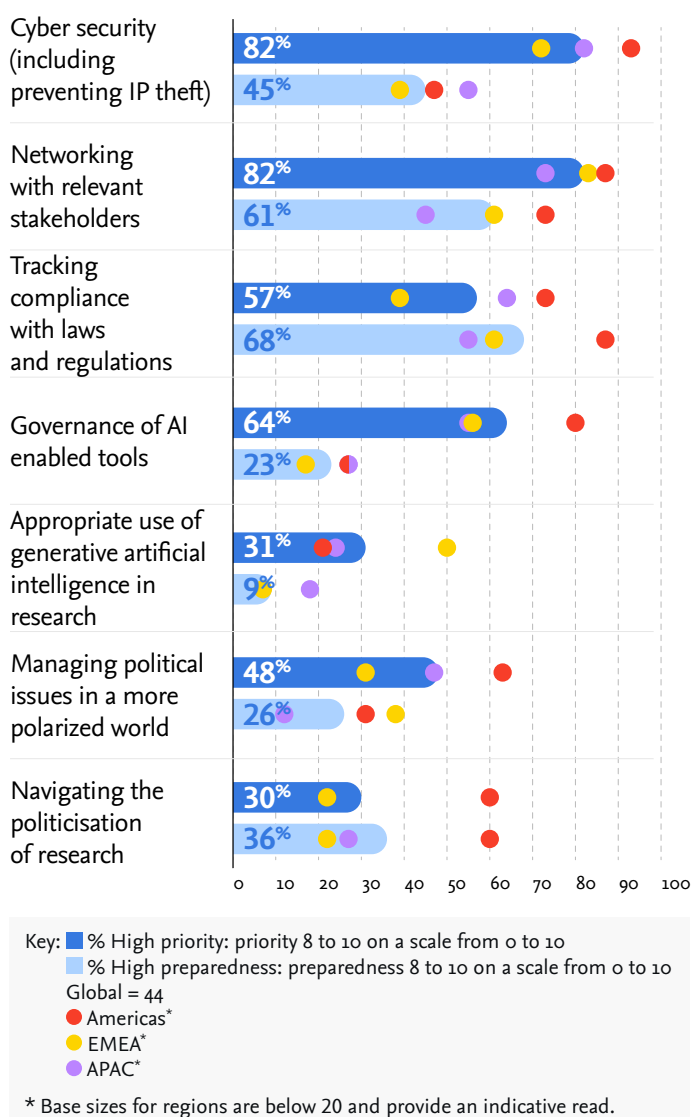* Base sizes for regions are below 20 and provide an indicative read.

Figure 7

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.)

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

Leaders are prepared for tech compliance

57% of leaders say tracking compliance with laws and regulations is a high priority

68% are well prepared to deal with this

Governments are also regulating and controlling the activities of universities in order to boost transparency, particularly around finances, to limit extremism on campus, and to promote social cohesion within increasingly polarized societies.

One example of this is the UK's Higher Education (Freedom of Speech) Act 2023, which came into force in May 2023.[47] The Act seeks to strengthen the duties already in place to protect freedom of speech, including introducing a code of practice and the appointment of a Director for Freedom of Speech and Academic Freedom that will oversee all the Office for Students (OfS) free speech functions.

Navigating an institution and its culture through challenges like these can be resource-intensive. Addressing them requires time and expertise that may not be readily available, particularly where talent challenges are impacting resources. In this context, academic values can easily become contested and research decisions politicized.

Leaders are more confident in their preparedness to track compliance with laws and regulations related to technology (68%) but see it as less of a priority (57%). This is something that carries a growing administrative burden, as governments continue to take steps to regulate research security. In their interviews, leaders at smaller universities share that they struggle with the administrative burden of keeping up with the evolving regulatory landscape.

> *If you ask me where we have not been as successful as I would have hoped for, it's the whole resilience side and that is compliance-related. Every day, there's a new thing coming from government where we have to comply, just because we are a small university, we have ridiculous difficulty to deliver... We have to screen all researchers with access to certain different technologies."*
>
> — *Academic Leader, EMEA*

While the immediate risks of failing to keep pace with political, technological and regulatory challenges may feel less significant to leaders, the majority (65%) recognize the challenges will become much greater in the next five years as they pose a potent threat to universities' credibility and their status as trusted institutions. This is particularly pronounced in the Americas (85%) and Europe (72%) (see figure 1 on page 7).

Lack of preparedness means many vulnerable to cyber attacks

82% of leaders identify cyber security (including preventing IP theft) as a high priority

45% of leaders say they are well prepared to tackle this challenge

Rapid technological advancements in areas such as AI and cybercrime are bringing both opportunities and threats. Compliance is a global issue, with 80% of countries having cybercrime legislation in place.[48] Cyber security is a particularly important consideration for higher education institutions.[49] The heightened awareness of cyber threats may be a consequence of a number of developments: the increasing sophistication of cyber-attacks[50] (with attackers targeting universities for valuable data such as student records or research data), a growing amount of sensitive data being stored on university networks, an increasing number of remote workers and an ever-greater reliance on cloud computing, which can be more difficult to secure.

According to Microsoft, education is the industry most affected by malware by far, representing 80% of all devices affected in May 2023.[51] This poses risks for institutions because the financial and reputational consequences of such attacks can be severe. In 2022, for example, Queensland University of Technology was hit by a ransomware attack, and forced to cancel exams and classes, and to pay a ransom demand of $1 million.[52]

> *We have been, in the past, victims of denial-of-service attacks in the cyber space. We've considerably ramped up our capacity to monitor the flow of information in and out of our organization along those IT pathways. Many institutions have been hit by cyber attacks... So far we haven't been hit by a ransom attack and were able to withstand a major data attack that hit a number of years ago."*
>
> — *Academic Leader, APAC*

The very nature of universities makes them prime targets for cyber crime, as their digital footprint includes research data, personal information and intellectual property. According to the UK government, attackers – often state-sponsored actors – may be looking to access research data for strategic gain.[53] Universities' complexity, scale and decentralized IT infrastructure, the vast amount of data they hold, the changing and disparate nature of their workforce, strict compliance demands from governments and a lack of both expertise and resource in the field of research security make this a particularly acute problem.

This makes the preparedness gap identified in the current study a concern. While more than four in five leaders (82%) identify cyber security as a top priority, fewer than half (45%) feel their institutions are well prepared to mitigate the negative impact of any cyber breach or IT challenge. The gap is notably large in the Americas, where 93% consider this a high priority but only 47% are well prepared.


Harnessing technology

Whilst cyber security is a technological threat, technology continues to have a significant positive impact throughout a higher education institution, supporting research, learning and student wellbeing. While technology development has long been a consideration for universities,[54] there was an unprecedented change in the way digital technology is used at universities when the COVID-19 forced teaching to go online.[55]

Many faculty and students continue to support this move to online or hybrid learning and are keen to integrate other technologies. But factors including lack of awareness, inadequate deployment capabilities and cost are holding some technologies back from more widespread use.[56] The "bricks versus clicks" phenomenon has seen many universities invest more in infrastructure than digital technology.[57] And despite producing groundbreaking research, universities can be "risk-averse" when it comes to redesigning the way they use technology.[58]

Artificial intelligence (AI) has been a particular topic of concern since the launch of generative AI programs like ChatGPT and Bard. Universities are grappling with how they govern the use of AI in research and education, and trying to understand the associated risks and opportunities.[59]

But technology isn't just about pushing boundaries and keeping up with the latest trends. Universities invest heavily in many technologies that are foundational to their operations, such as research information management systems (RIMS), enterprise risk management (ERM) systems and IT security systems.

Preparing for an AI-enabled workforce

64% of leaders say AI governance is a high priority

23% are well prepared for this challenge
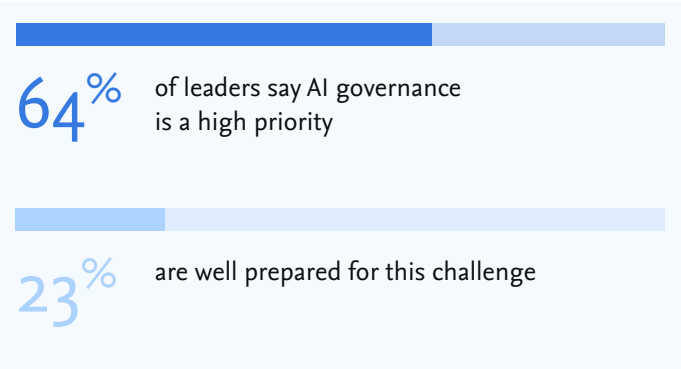
As both governments and society continue to debate how the potentially revolutionary technology should be handled and regulated, universities have yet to adjust to the rapid rise of AI since ChatGPT and Bard were launched. Although 64% of leaders rate AI governance as a top priority, fewer than a quarter (23%) feel their institutions are well prepared to adjust to the required changes.

Leaders share their concerns about preparing the future workforce with the technical skills they require, given the speed of development, as well as the trust implications of this.

> *We know AI is here... and will integrate into every facet of work. It means in all our academic programs, how do we — both in education and research — prepare the future workforce with the skill sets that are going to be expected when they go out in the workforce? ... How we create research capabilities and support systems from a research standpoint is something that is deeply on my mind and is very important."*

— *Academic Leader, the Americas*

> *[AI] can undermine the basis on which we conduct assessment. It can lead to the falsification of research results, but it can also give organizations a significant edge in terms of back-of-house efficiency. A lot of universities will be scrambling now to make sure that they're taking full advantage of those efficiencies, so they can invest the money saved elsewhere."*

— *Academic Leader, APAC*

Support needed to better face political, technological and environmental challenges

Support category	Support %
Technological solutions (specific software, cyber security etc)	73%
Support from lawmakers / regulatory bodies	66%
More internal collaboration (e.g. with advisory boards, colleagues, new initiatives etc)	64%
More external collaboration (e.g. with consultants, etc)	50%
Backroom outsourcing of core functions (e.g. IT) or administrative processes	25%
Other	16%

Key: ■ Support %
Global = 44
● Americas*
● EMEA*
● APAC*

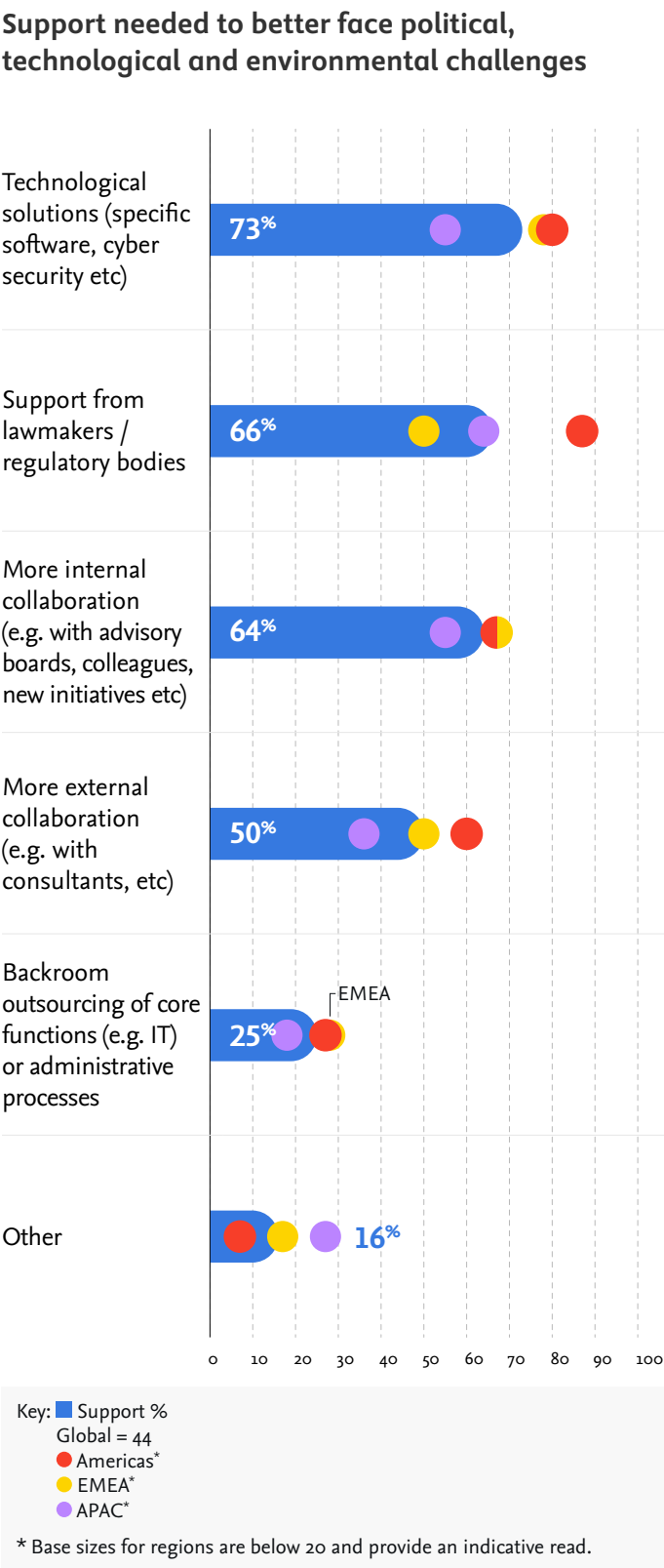* Base sizes for regions are below 20 and provide an indicative read.

Figure 8

Question: What kind of support, if any, does your organization need to help overcome the challenges posed by political, technological and regulatory challenges?

Academic leaders need tech support

While the immediate risks of failing to keep pace with technological challenges may feel less significant to leaders than the need to secure funding or publish groundbreaking research, they pose a potent threat both to universities' credibility and their status as trusted institutions.

Leaders report that these challenges influence their ability to carry out core functions, as well as placing a strain on limited resources, and some cannot keep up. When it comes to support in addressing their political, regulatory and technological priorities, leaders most commonly point to technological solutions such as software or cyber security as the area where their need is greatest (73%).

Beyond this, others are looking for support from lawmakers or regulatory bodies (66%) and more internal collaboration (64%). Support needs also differ by region, and leaders in APAC are less likely to say that they would require support in any of the areas identified. American leaders are much more likely than those in other regions to identify a need for support from lawmakers or other regulatory bodies (87%, compared to 64% in APAC and 50% in EMEA).

The funders' perspective

The changing political, technological and regulatory environment requires funders to be adaptable, forward-thinking, and well-versed in the latest developments.

Navigating a complex web of laws and regulations that govern research funding is difficult, and only around half of funders feel prepared for this. In some cases, the fear of potential regulatory violations can discourage funders from taking necessary risks or exploring innovative funding approaches. Regulation can affect various aspects of funding, from the types of research that can be funded to the ways in which funds can be allocated and used and the reporting requirements for funded projects.

The other issue funders identify as a top priority but are less well prepared to address is navigating the increasingly partisan landscape, in which funding decisions and priorities can become tied to specific political ideologies or agendas. This could lead to criticism or backlash from different political factions, potentially affecting the funder's reputation and ability to carry out its mission. Shifting political climates, which can lead to changes in government policies, regulations and priorities that affect funding, also create uncertainty and instability, making it difficult for funders to plan long-term strategies and initiatives.

> " *[Our] government has proclaimed gender equality as a foreign and development policy goal... that... is a true challenge because we can't produce [the required people], we have to respond to the applications we get. In most countries that we deal with, there is no equal opportunity for women in research, which means that the proportion of women among the applicants is much lower."*
>
> — Funder, EMEA

Best practice: enablers

Academic leaders and funders are addressing challenges in innovative ways: they report implementing new initiatives and reimagining how they manage existing resources in response to changing circumstances.

Funding

The problem for many leaders is the myriad funding challenges driven by macroeconomic trends beyond their control. In response to reduced funding, some leaders are focused on creating efficiencies and balancing budgets by lowering pension debts and raising money through recruiting internationally.

Fundamentally, a capital boost through funding provision will ameliorate many of the challenges academic leaders and funders face.

Independent funding through student recruitment

In seeking to boost independent sources of funding, some institutions have also succeeded in broadening their appeal and strengthening their student populations.

> *During the pandemic the university improved the quantity and quality of students applying. We have increased the number of students by nearly 30%, mainly masters' and doctoral students. We attract the best doctoral students with scholarships. We charge tuition for the masters' students. The increase in the number of our students has not only increased the quantity and quality of our graduate students, but has also increased the university's independent funding."*
>
> *— Academic Leader, APAC*

Implementing initiatives to boost research funding proposals

Research funding remains a major source of finance, and leaders are investing in their capabilities in this area to harness the opportunities available and remain competitive.

> *We initiated a faculty member peer mentoring proposal development program… A large number of our professors were trained on proposal development and proposal writing, and put though peer mentoring workshops. That resulted in a larger number of proposals being submitted and more proposals being funded. It helped shorten the ramp, so instead of 5 years, they can be up to speed in 3 years. We provide support so there are no weak proposals submitted."*
>
> *— Academic Leader, the Americas*

> *Organizationally we have unified the point of contact between the university and the outside world. The university created this organization, not to induce profit but to benefit society. This is an industry-academia-government-finance collaboration organization that handles adult education, funding for basic research, joint research, and more. By having the head of this organization and the director in charge of research of the university as the same person and reporting directly to the president we are able to respond quickly to various proposals from society. A proposal we received from a company in the morning was completed with a contract in the afternoon. We are recognized as a trustworthy organization due to our speedy response."*
>
> *— Academic Leader, APAC*

Financing through collaboration

In lieu of additional funding, leaders are showing a capacity for innovation and thirst for more collaboration. Many are working with governments on reform agendas or collaborating with other universities to enhance resilience.

> *I signed an MoU with an external partner, a government-affiliated research institute, and received a research grant... If we break down the walls, integrate internally, maintain co-operative relationships with external organizations and sufficiently explain and convince regulatory agencies of the feasibility of the research, we will be able to accomplish big tasks and achieve good results."*
>
> *— Academic Leader, APAC*

Some leaders have turned to the private sector, which has encouraged new ideas and solutions, while lowering dependence on government funding and injecting much-needed finance.

> *Collaboration with industry is becoming quite successful. First of all we have made significant progress in conducting joint research that allows industry to take advantage of the university's research results. On the financial side, over the five-year period from 2018 to 2023 funding from industry has doubled."*
>
> *— Academic Leader, APAC*

However, these collaborations can change the way universities operate; leaders stress that rules are needed when engaging with the private sector, particularly when it comes to ownership of research and ideas. They may also face complex social and political clashes if campus politics run counter to those of collaborators.

> *The challenge was that we did not have effective processes, enough people and the right internal collaboration. So we created a new innovation and business engagement hub to improve intellectual property patenting, licensing and co-operation collaboration with industry. As a result we've increased our patents, increased licensing of patents and improved the corporate brand."*
>
> *— Academic Leader, the Americas*

Enhancing political advocacy

Building and nurturing relations with policymakers has led to long term success for some in the US. Developing mutually beneficial relationships through the provision of guidance and insight on issues of national interest and importance has supported some institutions in their quest to better navigate the funding landscape.

> *We are deeply engaged with the government reform agenda, and simultaneously working on our economics to make us more resilient for the long run. Lots of operational effectiveness strategies while we work intensively with government to see the funding system re-designed. It's a two-year process."*
>
> *— Academic Leader, EMEA*

> *[Redacted] has joined Horizon Europe as an associate member state so that's involved government doing that, it's involved lobbying from universities. We've had to put in place a whole system to support our staff getting Horizon Europe funding. We have already been successful with some bits and have got a huge buy-in from our researchers, probably related to the authority that we have given this in our communications and also, the support we have put in place to help people get there."*
>
> *— Academic Leader, APAC*

The funders' perspective

When it comes to securing finance, funders see making the case to government for increased public investment in research as an important approach.

> *When communicating with government personnel, we appeal to them about the importance of increased funding and deepen their understanding, which leads to an increased budget. When considering [organizations in sector of interest], these are forms of lobbying groups towards the government, so by communicating with them... we can expect them to lobby the government in our favor. When considering our connection with overseas organizations and government personnel...they can also diplomatically appeal our importance to the government, and this does lead to increased funding."*
>
> *—Funder, APAC*

Managing talent

Academic leaders have found success with recruitment strategies, noting the importance of investing in them.

Many of the talent challenges academic leaders face are rooted in funding and institutional culture. Academic leaders have found success with recruitment strategies. As such, efforts to invest in international recruitment, strengthen institutional culture, promote diversity, equity and inclusion, introduce innovative retention schemes, facilitate collaboration internally as well as internationally and improve the attractiveness of the university as an employer have been successful.

Making the institution more attractive to potential employees

Changes to the university can help attract talent, including by offering more innovative approaches to education and research.

"In order to address these challenges of attracting talent... we invest a lot in innovative education concepts, innovative research concepts, so that people come to the university because they see there's a lot of innovation taking place at our university."

— Academic Leader, EMEA

Recruiting internationally

Investing in boosting international recruitment is helping universities attract top talent and compete on a global stage. This long-term strategy often involves shaping public perceptions and, importantly, providing competitive financial packages.

We are just about to launch instruments that will hopefully make it easier for us to recruit top scholars internationally, or become even better at it... Hopefully, we will see some effect already next year, but it will take time to mature because it will be a larger program and it will probably take some years before we see the full effect of it."

— Academic Leader, EMEA

The financial measures for attracting excellence have had a very strong impact. For example, dozens of foreign researchers have arrived at our university. There were incentives of different types, but essentially, they were financial."

— Academic Leader, EMEA

Improving DEI through recruitment

Some leaders are changing and monitoring their current recruitment processes and looking to broaden their appeal by increasing their teaching offerings in English through marketing and collaboration with foreign partner institutions.

We created an interdisciplinary research program, establishing participation requirements such as belonging to different sectors, gender balance of applications, and also a mix from a seniority point of view. In my opinion this has worked because it somehow stirred things up It perhaps energized certain situations or certain research contexts which were somewhat crystallized and repeating themselves."

— *Academic Leader, EMEA*

Innovating for successful faculty recruitment and retention

Leaders have enacted early career support initiatives designed to make the research environment a more attractive proposition. Access to advanced technology, training on how to apply for grants and ringfenced funds for talent retention and attraction are ways in which some leaders are addressing the challenge. Where possible, leaders with available budget say that hiring support staff has had a direct positive impact on the quality of research and teaching at their institutions.

Leaders have put various successful initiatives in place to attract and retain staff from overseas, offer attractive compensation packages and ensure regulatory compliance.

We are creating support structures for early-career research. We are providing money for them, so that they have access to high technology platforms. And we provide extra money for training these people, we have on-boarding programs for new professors, to get them more easily integrated into the system, a 100-day onboarding program. And we are setting up systems to help people fill out applications, so if you're applying for European Research Council applications, we are trying to train them."

— *Academic Leader, EMEA*

Improving institutional culture and belonging

To retain the people already working (and studying) at a university, leaders are fostering a sense of belonging through activities that impact institutional culture.

[After remote working during COVID-19] a sense of community and being part of a bigger group suffered... I created bi-weekly office hours where people could pop in and talk to me... We have been having many staff celebration events... Now we work more proactively to create opportunities for people to feel like they are part of a larger community... it has helped with job satisfaction, retention, a feeling of transparency and understanding... The feedback I have got has been very positive."

— *Academic Leader, the Americas*

Driving international collaboration

By collaborating with other institutions, universities are broadening the reach of their research and programs, and bridging gaps in human capital.

> *Human resource has been a challenge so we have tried to collaborate with partners around the world. We are successful in sending around 700 faculties to study their masters and PHDs inside and outside the country. Because of our resource we are able to send them to different countries around the globe."*
>
> *— Academic Leader, EMEA*

In some instances, partnering with private enterprise has helped to not only fill funding gaps, but also retain researchers. Some leaders report that by allowing businesses to participate in their institutions' research, they have managed to increase scholarships available for postgrad students and postdocs.

> *The challenge I'm hoping to address is to improve the relationship between the university and its potential commercial partners. I'm going to attempt to restructure our business development organization to ensure it's more business facing. We'll be reviewing our processes and procedures to ensure we are able to reach as many business partners as possible."*
>
> *— Academic Leader, EMEA*

Collaborating to unlock internal resources

A move away from individually focused research and towards a collaborative approach has also been successful in attracting external funding opportunities.

> *I created an initiative that was called 'Creativity and collaboration in the academy', which was a way to bring together researchers from across the university on how practices of research have changed as a consequence of digitalization and sharing... I lead an initiative on this topic which led to policy changes, changes in tenure standards, so it recognized different types of research and research products. It also led to investing in collaborative research within the university's internal funding. What made this effective was having a vision and looking into the future. It wasn't about what to do in the next year, but the next 5, 10, 20 years as research changes."*
>
> *— Academic Leader, the Americas*

Chapter 1 references

1 Elsevier [2020] University leaders: opportunities and challenges, 2020. (https://assets.ctfassets.net/o78em1y1w4i4/3C62qP8xVF555wo6YN3plu/ede53f36786b47e695bbd13a7dcf7c64/University_leaders_-_opportunities_and_challenges.pdf)

2 Morgan, J. [9 Oct. 2023] Shadow minister: university funding 'keeping me awake at night' (https://www.timeshighereducation.com/news/shadow-minister-university-funding-keeping-me-awake-night)

3 International Monetary Fund [Oct. 2023] World Economic Outlook: Navigating Global Divergences (https://www.imf.org/en/Publications/WEO/Issues/2023/10/10/world-economic-outlook-october-2023)

4 OECD [2023] Science, Technology and Innovation Outlook 2023 (https://www.oecd.org/sti/science-technology-innovation-outlook/)

5 OECD [Mar. 2024] OECD Main Science and Technology Indicators (https://www.oecd.org/sti/msti.htm)

6 O'Neill, A. [1 Nov. 2023] Global inflation rate from 2000 to 2028 (https://www.statista.com/statistics/256598/global-inflation-rate-compared-to-previous-year/#:~:text=A%20series%20of%20compounding%20issues,increase%20in%20inflation%20since%201996)

7 Sheahan, M and Marsh, S. [27 Feb 2022] Germany to increase defence spending in response to 'Putin's war' – Scholz (https://www.reuters.com/business/aerospace-defense/germany-hike-defense-spending-scholz-says-further-policy-shift-2022-02-27/)

8 Wang, Q and Zhang, F. [10 Apr. 2020] Does increasing investment in research and development promote economic growth decoupling from carbon emission growth? An empirical analysis of BRICS countries (https://www.sciencedirect.com/science/article/abs/pii/S0959652619347237)

9 OECD [2022] Gross domestic spending on R&D. 2000-2022 (https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm)

10 Fiorino, D. [12 Jan. 2022] Climate change and right-wing populism in the United States (https://www.tandfonline.com/doi/abs/10.1080/09644016.2021.2018854)

11 Head, B. [18 Aug 2019] Policy expertise and use of evidence in a populist era (https://www.tandfonline.com/doi/abs/10.1080/10361146.2019.1686117)

12 Morgan, J and Havergal, C. [18 Jan 2024] Vice-chancellors fear UK sector is hurtling into financial crisis (https://www.timeshighereducation.com/news/vice-chancellors-fear-uk-sector-hurtling-financial-crisis)

13 Lederman, D. [13 July 2023] Signs of Weakness: A Survey of Campus Business Officers (https://www.insidehighered.com/news/business/financial-health/2023/07/13/business-leaders-acknowledge-colleges-financial)

14 Exlibris [2019] Supporting Academic Research: Understanding the Challenges (https://exlibrisgroup.com/wp-content/uploads/Supporting-Academic-Research-understanding-researcher-challenges-WEB-S.pdf)

15 Elsevier [2020] University leaders: opportunities and challenges, 2020. https://assets.ctfassets.net/o78em1y1w4i4/3C62qP8xVF555wo6YN3plu/ede53f36786b47e695bbd13a7dcf7c64/University_leaders_-_opportunities_and_challenges.pdf

16 Rosowsky, D. [2 Mar 2022] The Role Of Research At Universities: Why It Matters (https://www.forbes.com/sites/davidrosowsky/2022/03/02/the-role-of-research-at-universities-why-it-matters/?sh=31be502b6bd5)

17 Nuwer, R. [9 Aug. 2023] Chinese students stay local as favour falls with study abroad (https://www.nature.com/articles/d41586-023-02162-y)

18 Weale, S. [31 May 2023] Funding model for UK higher education is 'broken', say university VCs (https://www.theguardian.com/education/2023/may/31/funding-model-for-uk-higher-education-is-broken-say-university-vcs)

19 Scherer, S and Lone, W. [23 Jan 2024] Canada to cap international student permits amid housing crunch (https://www.reuters.com/world/americas/canada-set-two-year-cap-international-student-permits-2024-01-22/)

20 Boztas, S. [17 Nov. 2023] Dutch universities slam 'ridiculous' proposal to cap foreign students (https://www.theguardian.com/world/2023/nov/17/dutch-universities-slam-proposal-cap-foreign-students-omtzigt)

21 Crowe, D. [11 Dec. 2023] Universities oppose caps, levies on overseas students amid plan to slash migration (https://www.smh.com.au/politics/federal/universities-oppose-caps-levies-on-overseas-students-amid-plan-to-slash-migration-20231211-p5eqm9.html)

22 Woolston, C. [16 Jan. 2023] Facing inflation: lab heads tighten supplies budgets (https://www.nature.com/articles/d41586-023-00088-z)

23 National Center for Science and Engineering Statistics, Survey of Science and Engineering Research Facilities; National Center for Science and Engineering Statistics, Higher Education Research and Development Survey [1998-2019] Science and Engineering Indicators (https://ncses.nsf.gov/pubs/nsb20213/infrastructure-for-academic-r-d)

24 Gruber, J, Johnson, S and Moretti, E. [Sept. 2022] Place-Based Productivity and Costs in Science (https://www.nber.org/papers/w30416)

25 Science|Business [2022] Attracting investment for research infrastructures (https://sciencebusiness.net/system/files/reports/ATTRACTING_INVESTMENT%20final.pdf)

26 European Commission [Nov. 2021] European Research Area Policy Agenda: Overview of actions for the period 2022-2024 (https://commission.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf)

27 Zulfqar, A, Valcke, M, Quraishi, U and Devos, G. [Jan-Mar 2021] Developing Academic Leaders: Evaluation of a Leadership Development Intervention in Higher Education (https://journals.sagepub.com/doi/pdf/10.1177/2158244021991815)

28 Drew, G. Issues and Challenges in Higher Education Leadership: Engaging for Change (https://files.eric.ed.gov/fulltext/EJ922265.pdf)

29 Bichsel, J, Fuesting, M, Schneider, J, Tubbs, D. [July 2022] THE CUPA-HR 2022 HIGHER EDUCATION EMPLOYEE RETENTION SURVEY: INITIAL RESULTS (https://www.cupahr.org/surveys/research-briefs/higher-ed-employee-retention-survey-findings-july-2022/)

30 Academic Positions [13 Feb. 2018] Professor Salaries From Around the World (https://academicpositions.com/career-advice/professor-salaries-from-around-the-world)

31 Bichsel, J, Fuesting, M, Schneider, J, Tubbs, D. [July 2022] THE CUPA-HR 2022 HIGHER EDUCATION EMPLOYEE RETENTION SURVEY: INITIAL RESULTS (https://www.cupahr.org/surveys/research-briefs/higher-ed-employee-retention-survey-findings-july-2022/)

32 Statista Research Department [3 Nov. 2022] Average annual consumer expenditures of consumer units in the United States from 1990 to 2022 (https://www.statista.com/statistics/247455/annual-us-consumer-expenditures/)

33 Lord, J. [12 May 2022] Why is recruitment and retention in the university sector more difficult than other sectors? (https://www.timeshighereducation.com/campus/why-recruitment-and-retention-university-sector-more-difficult-other-sectors)

34   Cohen, A [May 2021] How to Quit Your Job in the Great Post-Pandemic Resignation Boom (https://www.bloomberg.com/news/articles/2021-05-10/quit-your-job-how-to-resign-after-covid-pandemic?leadSource=uverify%20wall)

35   Copeland, R. [12 Jan. 2024] The Billionaires Spending a Fortune to Lure Scientists Away From Universities (https://www.nytimes.com/2024/01/12/business/arena-bioworks-scientists-harvard-mit.html)

36   Tierney, W.G., Lanford, M. [2018] Institutional Culture in Higher Education. In: Encyclopedia of International Higher Education Systems and Institutions. Springer, Dordrecht. (https://doi.org/10.1007/978-94-017-9553-1_544-1)

37   ibid.

38   UKRI [18 Jan 2024] Explainer: how UKRI is supporting research culture. (https://www.ukri.org/publications/explainer-research-culture/explainer-how-ukri-is-supporting-research-culture/)

39   Lapina, I. [. 1 Dec. 2015] Role of Organizational Culture in the Quality Management of University (https://www.sciencedirect.com/science/article/pii/S1877042815058279)

40   Marketing Director [15 July 2022] Today's Diverse Higher Ed Job Seekers Value Healthy Workplace Culture, DEI Policies; Open to Careers in Other Industries (https://www.hercjobs.org/todays-diverse-higher-ed-job-seekers-value-healthy-workplace-culture-dei-policies-open-to-careers-in-other-industries/)

41   World Economic Forum [20 June 2023] Global Gender Gap Report 2023 (https://www.weforum.org/publications/global-gender-gap-report-2023/)

42   Winter, J. [6 Sept. 2022] Decolonising the curriculum: A survey of current practice in a modern UK university (https://www.tandfonline.com/doi/full/10.1080/14703297.2022.2121305)

43   Stokes, D. [18 Mar. 2021] Decolonisation is a welcome contribution, but must not be enforced (https://www.hepi.ac.uk/2021/03/18/doug-stokes-the-white-paper-is-vital-for-the-defence-of-academic-freedom/)

44   Schar, R. [Oct. 2023] Compliance in Higher Education: Six Considerations (https://www.academicbriefing.com/risk-management/compliance-in-higher-education-six-considerations/)

45   US Department of Labor [18 Oct. 2023] Florida International University agrees to pay $575K in back wages, interest to resolve alleged gender pay discrimination (https://www.dol.gov/newsroom/releases/ofccp/ofccp20231018)

46   Lederman, D. [17 Oct. 2023] Middle East Tumult Reverberates on U.S. Campuses (https://www.insidehighered.com/news/students/free-speech/2023/10/17/fallout-israel-hamas-war-continues-roil-us-campuses)

47   House of Commons, Sessions 2021-22, 2022-23 [16 May 2023] Higher Education (Freedom of Speech) Act 2023 (https://bills.parliament.uk/bills/2862)

48   United Nations Conference on Trade and Development [14 Dec. 2021] Cybercrime Legislation Worldwide (https://unctad.org/page/cybercrime-legislation-worldwide)

49   Novak, C. [12 Sept. 2023] The Cybersecurity Risks In Education Cannot Be Ignored (https://www.forbes.com/sites/forbestechcouncil/2023/09/12/the-cybersecurity-risks-in-education-cannot-be-ignored/?sh=475b6b6c4566)

50   Engineering & Technology [16 May 2017] Q&A: THE RANSOMWARE CYBER-ATTACK FALLOUT (https://pursuit.unimelb.edu.au/articles/q-amp-a-the-ransomware-cyber-attack-fallout)

51   Anderson, M. [26 May 2023] Remaining resilient against malware attacks in Australia's education sector (https://www.theeducatoronline.com/k12/news/remaining-resilient-against-malware-attacks-in-australias-education-sector/282531)

52   ibid.

53   Nation Cyber Security Centre [18 Sept. 2019] The cyber threat to Universities (https://www.ncsc.gov.uk/report/the-cyber-threat-to-universities)

54   Van Houweling, D. [1 Feb. 1987] The Information Network: Its Structure and Role in Higher Education (https://www.emerald.com/insight/content/doi/10.1108/eb047685/full/html)

55   Li, J, Chunlei, Q and Yanchun, Z. [12 June 2021] Online teaching in universities during the Covid-19 epidemic: a study of the situation, effectiveness and countermeasure (https://www.sciencedirect.com/science/article/pii/S187705092100898X)

56   McKinsey [15 June 2022] How technology is shaping learning in higher education (https://www.mckinsey.com/industries/education/our-insights/how-technology-is-shaping-learning-in-higher-education)

57   Curnock Cook, M and Dunn, I. [4 Nov. 2022] From technology enabled teaching to digitally enhanced learning: a new perspective for higher education (https://www.hepi.ac.uk/2022/11/04/from-bricks-to-clicks-why-and-how-higher-education-leaders-must-seize-the-opportunity-for-digitally-enhanced-learning/)

58   Marcus, J. [20 Feb 2020] How Technology Is Changing the Future of Higher Education (https://www.nytimes.com/2020/02/20/education/learning/education-technology.html)

59   Humble, N and Mozelius, P [10 Nov. 2022] The threat, hype, and promise of artificial intelligence in education (https://link.springer.com/article/10.1007/s44163-022-00039-z)

Chapter 2

Fulfilling the institution's dual mission

New paths to excellence in research and education

Research and education represent the core mission of higher education, and the environment in which this mission is realized – both internal and external – is part of the story of how a university succeeds. Academic leaders surveyed consider achieving excellence in research and offering excellent education high-priority challenges. In the post-COVID world, institutional culture is still recovering, and in particular, leaders acknowledge the importance of the student experience, with improving student welfare a high priority.

- 89% of leaders consider research a high priority, and 69% believe that all the challenges they face will have a severe or major impact on research in the future

- 93% of leaders put a high priority on ensuring research excellence but only 56% feel well prepared to meet this challenge

- 82% of leaders consider educational excellence a high priority and 64% are well prepared to tackle the challenge

- 67% of leaders place a higher priority on improving student welfare and many, 58% feel well prepared to address it

Setting the stage for excellence

The dual mission of academic institutions – namely research and education – represent the core processes that underpin their work, and ultimately their success or failure.

> *Universities mainly produce two things: one is talent and the other is new knowledge. The delivery of these two main products requires a series of productivity factors. For example, high level teachers and scholars, high level teaching and research platforms, tools and resources. At the same time, it requires a good source of students and good research subjects. These factors must be brought together and function effectively in a university to produce high quality talent and knowledge."*
>
> *– Academic Leader, APAC*

Excellent education benefits from excellent research and vice versa. With access to cutting-edge research in action, students can gain invaluable insight and experience the can apply in advanced degrees and their research career.

Conversely, the erosion of quality education can have a negative impact not only on growing the student body but also on funding opportunities and attracting talent, thereby impacting the quality of research.

Given the financial pressures academic leaders are under (see chapter 1 on page 16), it is perhaps unsurprising that securing funding for both research and education is a major concern.

Several factors contribute to the success of competitive funding,[1] which remains a major source of research finance around the world. To win grants, research quality and impact are critical, and integrity is an important element of these factors. Research quality also impacts collaboration with industry in various ways.[2]

However, there is evidence of a higher prevalence of misconduct than previously thought,[3] and there's a push towards universities, funders and publishers taking action to improve research quality and integrity.[4]

In turn, the quality of the research plays a role in students' decisions when choosing to enroll or remain at a university.[5]

Many of the challenges academic leaders face, such as securing funding and attracting talent, run through research and education. When considering all the challenges they face, leaders expect research to be the area most impacted in the coming years, more so than education, and teaching and community engagement. Over two-thirds (69%) of leaders believe that research at their institution will be impacted by the challenges they face to a major or severe extent.

Impact of not meeting challenges faced on education and research
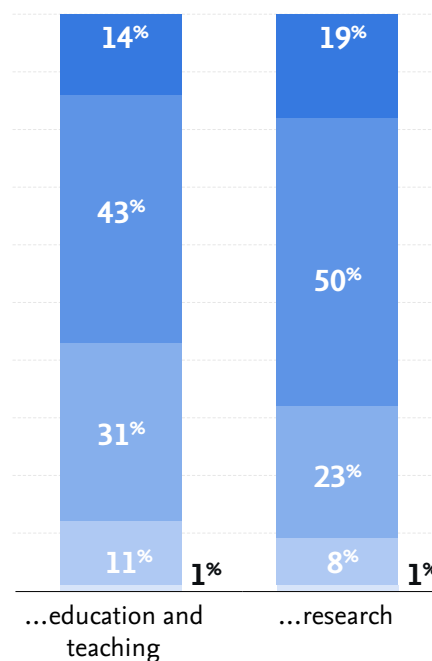
Key:
- ■ Severe impact
- ■ Major impact
- ■ Moderate impact
- ■ Minor impact
- ■ No impact

Base size: Global = 80, Americas =26*, EMEA = 25*, APAC = 29*

*Please note: base sizes below 30 provide an indicative read.

Figure 9

Question: Thinking about the impact of all the various challenges your organization currently faces, what impact, if any, do you believe they will have over the next 2 to 3 years on your institution in regard to…?

Research: creating knowledge

Many institutions aim to become globally recognized research universities, thereby gaining the associated status. Possessing a robust research capability enables them to effectively address the wider societal challenges prevalent in today's world. This is a critical social role for universities, as academics are uniquely positioned to tackle these issues from an unbiased and non-commercial standpoint.

Meanwhile, technological advances, including AI, are affecting universities' risk profiles. While AI can aid research and create efficiencies, it can also be misused. Leaders warned in qualitative interviews that an overreliance on the technology could lead to dubious research results and intellectual property misuse.

> *[AI] would allow our researchers to automate certain tasks that are currently manual… The negative is it could produce vast quantities of dubious research and inability to tell what's real from what's fake in all manner of technical output. And then there are other worries like 'Haves' and 'Have Nots' and intellectual property misuse. We are at the beginning of this change and we have got to learn how to do this."*
>
> *— Academic Leader, the Americas*
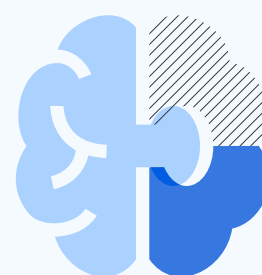
This feeds into the issue of research excellence, which gained media traction in 2023 when the US and UK governments called on funders, publishers and academic institutions to do more to ensure research reliability.[6] A US Government Accountability Office report on the reliability of federally funded research found that the three largest basic research funders – the NIH, NSF and NASA – failed to promote practices, commonly used among the scientific community, for collecting sharing and storing research data.[7] In the UK, the Commons Science, Innovation and Technology Select Committee cited concerns over the reproducibility of UK-based scientific research and called for this to be a condition of future funding.[8]

And yet it is also these tools and facilities, along with open access to data and science, that researchers seek to produce excellent research. Enabling open access and open science is seen by many leaders as the great equalizer, and essential to producing efficiencies, as well as the integrity that is required in research. There is also a risk of creating a divide between those who have access to the facilities, technologies and data needed to conduct high-end research and those who do not. This can lead to good research going unnoticed or being duplicated, which ultimately means that science will suffer.

However, as evidenced throughout this study, the macroeconomic situation determines researchers' level of access to funding, and ultimately the equipment and technologies required to conduct research. Levels of available funding and leaders' ability to deal with the challenges they face are inextricably interlinked.

Research challenges – levels of high priority and high preparedness

Key: ■ % High priority: priority 8 to 10 on a scale from 0 to 10
■ % High prepared: prepared 8 to 10 on a scale from 0 to 10
Global = 45
● Americas*
● EMEA*
● APAC*

* Base sizes for regions are below 20 and provide an indicative read.
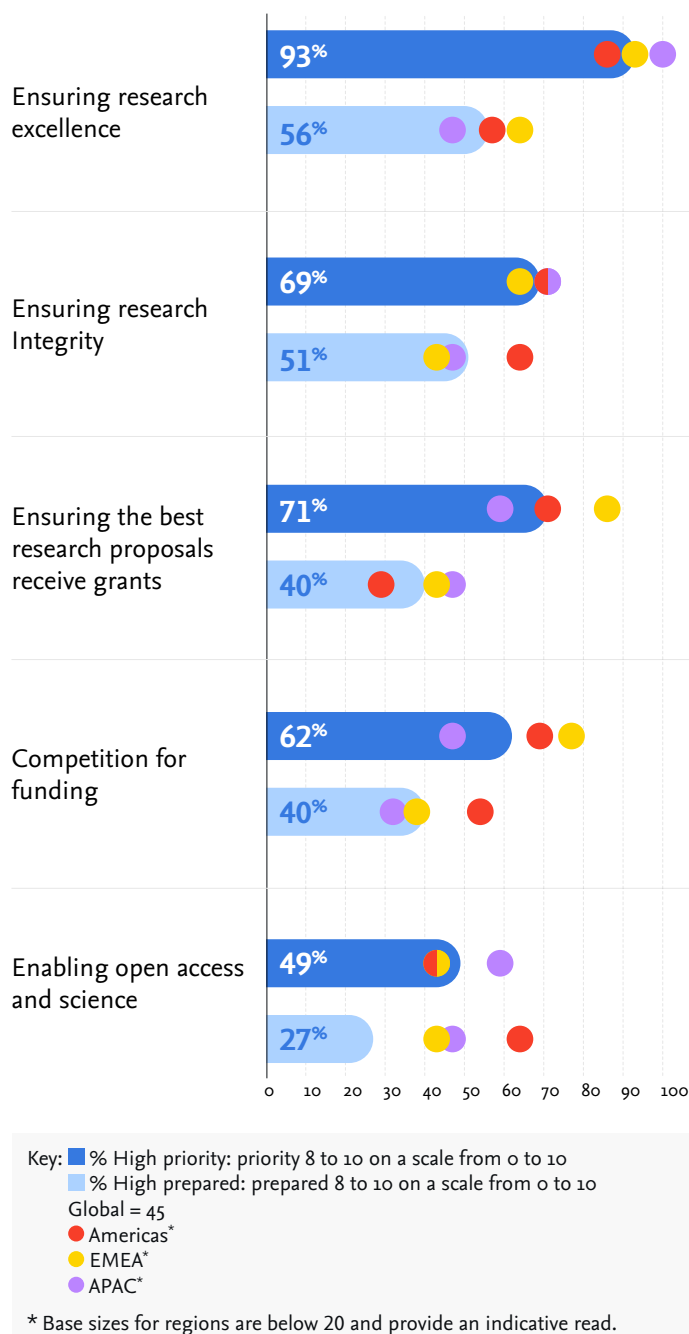
Figure 10

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

Striving for research excellence and integrity

93% leaders say ensuring research excellence is a high priority

69% leaders say ensuring research integrity is a high priority

In the current study, 93% of academic leaders interviewed say ensuring research excellence is a high priority. Regionally, the percentage of leaders ranking research excellence high priority ranges from 86% in the Americas to 100% in APAC.
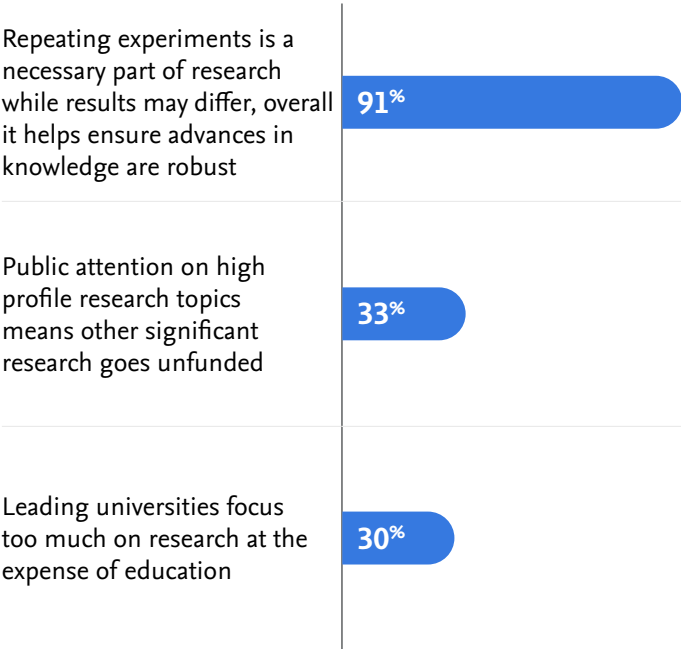
However, despite being a critical issue in need of attention, just 56% of leaders asked say they are well prepared to address it. Institutions in EMEA feel better prepared (64%) than those in the Americas (57%) and APAC (47%).

Related to excellence is the issue of research integrity, identified as a priority by 69% of leaders. The gap between priority and preparedness is slightly closer for ensuring research integrity, for which 51% feel highly prepared to address the challenge. The gap is narrower in the Americas (7ppt gap) in the Americas, while the gap is greater in EMEA (21 ppt gap) and APAC (24 ppt gap). There are many challenges around research excellence and integrity, particularly as it relates to AI, for example. (See chapter 1 on page 37.)

Research integrity is linked to the replicability of research: in recent years there has been debate as to how much science is redundant because results cannot be reproduced.[9] For leaders, repeating experiments is a necessary part of scientific progress – 91% agree. It is expected that results will differ: overall, they believe it ensures science is advanced on a sound footing.

In addition to funding, what support do academic leaders need to achieve research excellence? About three-quarters (73%) of leaders say they require more external collaboration and 69% more internal collaboration, while 69% need technological solutions (for example, specific software and cyber security).

Repeating research is necessary and it is expected results may differ – few think leading universities prioritize research over education

Statement	
Repeating experiments is a necessary part of research while results may differ, overall it helps ensure advances in knowledge are robust	**91%**
Public attention on high profile research topics means other significant research goes unfunded	**33%**
Leading universities focus too much on research at the expense of education	**30%**

Base size = 80

Figure 11

Question: To what extent, if at all, do you either agree or disagree with the following statements that leaders themselves identified? This time please answer using a 1 to 5 scale, where 1 means Strongly disagree and 5 means Strongly agree.

Lack of resource means good research can go unfunded

71% of leaders say ensuring that the best research proposals receive grants is high priority

62% of leaders say competition for funding is a high priority

Ensuring the best research proposals receive grants is a particular priority in EMEA (86%) compared to APAC (59%) and the Americas (71%). The lower priority in the Americas may be due to institutions better positioned to face funding challenges (see figure 10).

Just two in five leaders (40%) say they are well prepared to address the challenge, a figure that drops to just under a third (29%) in the Americas.

> *When we get any ranking or further grants, or extramural grants, everything comes if the faculty is doing a good job in the research. The output in research has to be substantial. This is possible only when the pharmaceutical industry supports you. The pharmaceutical industry will not support you if they cannot trust your work that you are doing at university."*
>
> *— Academic Leader, APAC*

Academic leaders report that there are many good research proposals but not enough resources to fund them all. The pressure on funding may mean some leaders prioritize research over education. On balance, however, most leaders believe leading universities do not prioritize research over education: only 30% agree (see figure 11).

There are other factors that can play a role in research choices – one-third (33%) of leaders believe that public attention on high profile research topics puts additional pressure on budgets, shifting resources away from significant research (see figure 11).

Managing the competition for funding is a high priority challenge for 62% of leaders. It is a lower priority in APAC (47%) than in the Americas (69%) and EMEA (77%), perhaps reflecting the differing funding models and cultures around the world. It may also suggest that competition is fiercer in the Americas and EMEA than in APAC.

Two-fifths (40%) of leaders surveyed say they are well prepared to deal with competition for funding, although regional differences are stark. In APAC, preparedness is lower at 32%, reflecting the lower priority the challenge of competition for funding has in the region. In the Americas, preparedness matches priority (54%), while there is a significant gap in EMEA, where only 38% of leaders feel prepared to tackle the challenge.

The funders' perspective

Given the importance of research excellence to funders, universities are in a key position to support funders' goals. What research is funded can have an impact that reaches far beyond the individual project.

> *We had a very good proposal that wanted to focus on the role of technicians in research… And it developed a whole initiative about bringing their careers to the fore, developing a kind of concord approach to all universities to sign up to develop their careers better, and that's become a national initiative now adopted. And that had an enormous impact."*
>
> *— Funder, EMEA*

Although funders generally feel well prepared to address any challenges in selecting and monitoring research grants, over half say they require more external and internal collaboration to support them in addressing these challenges. And because funders are also under financial pressure due to external economic trends, the reality is that many excellent proposals may not get funded. This is critical, as failing to finance research ultimately puts the overall output of science at risk.

Open access and science: an evolving challenge

49% of leaders say enabling open access and science is a high priority

27% of leaders are well prepared to tackle this challenge

Compared to all the other challenges they face, fewer academic leaders (49%) consider enabling open science high priority. This may explain the relative lack of preparedness to address it (27%). There are regional differences: APAC leaders place higher priority on enabling open access and science (59%) than leaders in EMEA (43%) and the Americas (43%).

> *If we cannot read e-journals due to financial factors, we will have to request copies from other universities that subscribe to them and receive printed materials. This will make it impossible for us to read articles from around the world in a timely manner. Currently everyone has free access to a vast amount of information, but it will take time for the teachers and researchers to obtain new information. Individual teachers will have to pay for the necessary information. If the amount of information needed for research is reduced the ability to research may also be reduced and we may fall behind."*
>
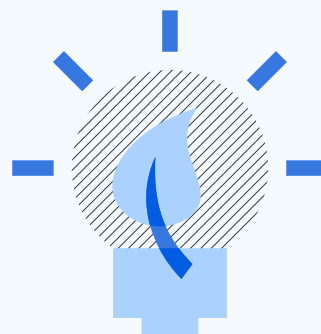> *— Academic Leader, APAC*

Education: sharing knowledge

While excellent research is one fundamental mission of academic institutions, so too is providing excellent education – 82% of leaders consider it high priority. Educating the next generation of researchers, who can continue the work of others competently and drive research in new directions, is critical for universities.

Leaders are also focused on creating skills for future labor market needs, and ensuring their institutions produce talent that contributes to society in various ways, from innovators that create start-ups to politicians who drive change and tackle global challenges.

Institutions' ability to attract the best students depends on factors such as their culture and the support they can offer students. Offering affordable fees is one element of this, but so too is taking care of their students' wellbeing.

Providing better mental health promotion, detection and management of disorders among students at university is a key recommendation of the Australian Government's 2019 *Mental Health Productivity Commission Inquiry Report*.[10] Universities also need to formulate an evaluation framework that documents health and wellbeing policy initiatives and their implementation, and routinely surveys student mental health indicators to track improvements.

Cultivating an engaged alumni community also plays a major role for institutions. Not only do alumni tend to give back to their university, but they offer a network for students that can help in their job search. If they make a large impact on the world, prominent alumni can also serve as a banner for student recruitment.

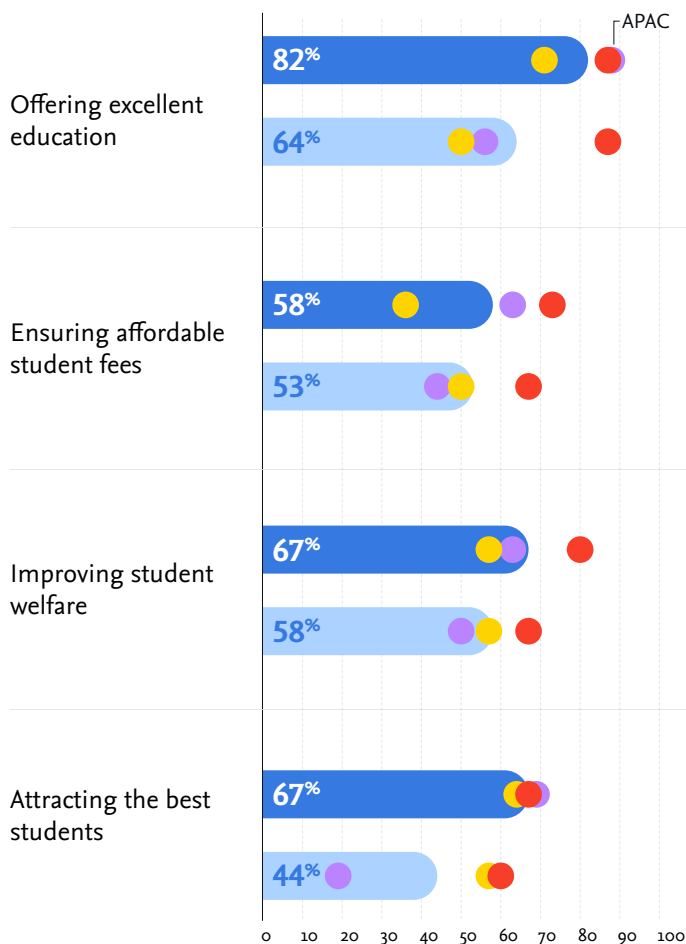## Education challenges – levels of high priority and high preparedness

Offering excellent education
- 82%
- 64%

Ensuring affordable student fees
- 58%
- 53%

Improving student welfare
- 67%
- 58%

Attracting the best students
- 67%
- 44%

APAC

Scale: 0 10 20 30 40 50 60 70 80 90 100

Key: ■ % High priority: priority 8 to 10 on a scale from 0 to 10
■ % High prepared: prepared 8 to 10 on a scale from 0 to 10
Global = 45
● Americas*
● EMEA*
● APAC*

* Base sizes for regions are below 20 and provide an indicative read.

Figure 12

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

In many respects, ensuring educational excellence has the potential to help with some of the other educational challenges academic leaders are facing. Providing a quality level of education involves keeping up with technological change, adopting innovative teaching methods, and balancing research and teaching. As the Vice-Principal of Education at Queen Mary University of London wrote for HEPI, *"we have yet to fully commit to the idea that teaching excellence has a role to play"*[11] in clearing these three hurdles. But while the importance of educational and teaching excellence is clear, leaders' ability to fulfil this mission is often dependent on the levels of funding and talent available.

An institution's ability to fulfil its educational commitments is dependent on many factors, including the availability of funding, the depth and breadth of its research capabilities, and the quality of faculty staff. Universities strive to achieve the delicate balance between research and teaching to deliver on social equity and access agendas to provide equal opportunity for students. There is a general sense that today's students, the workforce of tomorrow, need to be better equipped to deal with the technological advancements they will soon face in the working environment.

Delivering educational excellence

82% of leaders consider educational excellence a high priority

64% of leaders are well prepared to tackle the challenge

Educational excellence is critical to a university's purpose, and this is reflected in the priority academic leaders give the challenge. Leaders prioritize this challenge more in APAC (88%) and the Americas (87%) than in EMEA (71%). Most leaders feel relatively comfortable with this challenge, with 64% considering themselves highly prepared to tackle it. Again, leaders in the Americas stand out in their preparedness, with 87% feeling well equipped compared to 56% in APAC and 50% in EMEA.

> "How do you create a culture of research where the research conducted... also directly [feeds] into the educational process? We're trying to grow the next generation of leaders."
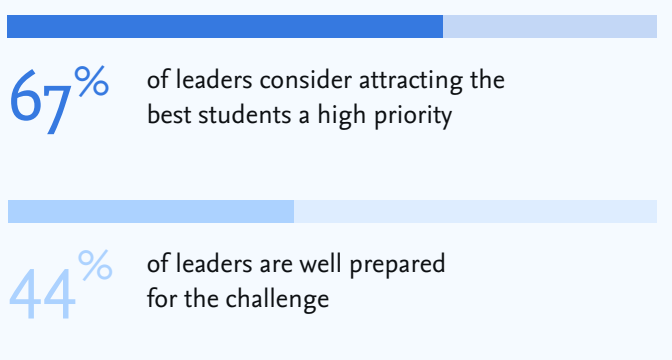>
> — Academic Leader, the Americas

One of the challenges academic leaders identified is pressure on faculty to focus on research and output rather than education.

> "No matter how excellent researchers or professors are, the situation is extremely poor for them to focus on education. This is because universities' evaluation criteria focus on how many Science Citation Index (SCI) papers they have written or how much research funding they have received."
>
> — Academic Leader, APAC

Leaders less prepared to attract the best students

67% of leaders consider attracting the best students a high priority

44% of leaders are well prepared for the challenge

Academic leaders agree that attracting the best students and cultivating engaged alumni play a major role for their institutions, and they also feel better able to deal with these challenges. High achieving students act as ambassadors for their universities and can support student recruitment through promotion after graduation. Ensuring the institution draws in top students is a high priority for 67% of leaders globally.

All three regions are broadly aligned on this as a priority, but there is a greater gap in preparedness in APAC, fewer leaders (19%) feel prepared to address this challenge.

> *One example is internationalization. We hope our teachers and students can be more international, not just from [country]. We have tried to make the sources of our staff and students more diversified, for example, from Europe, America, South East Asia and Japan. We have talked about this a lot and have developed some policies and packages, but these have not been successful yet."*
>
> *— Academic Leader, APAC.*

Long-term demographic shifts and dwindling birth rates put pressure on institutions to maintain enrolment targets and serve to increase competition among them, each vying for an ever-decreasing pool of students. Several leaders noted this trend in their interviews.

> *The most serious challenge we face is the... possible drop off in enrolment due to the great recessions in 2008, 2009 and 2010, which dramatically dropped the birth rate in America. The number of young people who will be available to make a decision about higher education has dropped dramatically... by about 15%. If we can't deal with it effectively, it will dramatically drop enrolment which will drop the financial resources available to us. At a higher level we will put fewer people into the workplace in key positions in medicine, in healthcare, in engineering and agriculture over the next 4, 5 or 6 years. Those key programs that we have will be affected. We want to put more graduates into the workplace and this will really challenge that."*
>
> *— Academic Leader, the Americas*

Leaders' concerns vary considerably by region and include access and too many students. In some regions, demand for higher education is dwindling as students take alternative routes into the workplace. This is creating an unequal distribution of public funds, as the pool of those who benefit from university education becomes ever smaller.

> *Today, at least in [my country], we have a low attractiveness for higher education courses. This is a multi-faceted problem due to today's young people thinking very differently. This has an impact because we are a public university financed by [country's] society. We end up providing public resources to a smaller number of people and this is a disservice to society as a whole."*
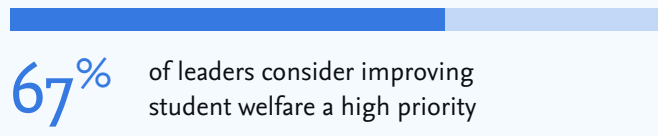>
> *— Academic Leader, the Americas*

Nevertheless, one leader in APAC highlighted a conflicting challenge, namely the decline in the value of a college degree due to oversaturation in the current job market.
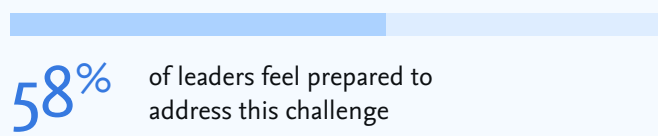
> *[My country] is one of the countries with a high college entrance rate: as of 2022 it reached 67%. Although university education has grown tremendously in quantity, the big question will be how well the quality of education can keep up. Because the overall contribution of education to industry is declining, quantitative growth is important, but qualitative growth is more important, especially for national universities. There must be balanced development of quantity and quality."*
>
> *— Academic Leader, APAC*

Enhancing student welfare: the Americas most prepared to address the challenge

67% of leaders consider improving student welfare a high priority

58% of leaders feel prepared to address this challenge

The need to focus on student welfare was highlighted following COVID-19, as mental illness among students increased. In November 2023, the American Psychological Association referred to the "crisis" of universities reporting students seeking mental health services. In response, many US colleges and universities have been expanding their mental health services capabilities, but the prohibitive cost has left some relying on existing staff to bridge the gap.[12]

> *We all face the normal resource, generation, and allocation issues. Beyond those, we are facing student basic needs' issues, like housing, mental health, food and security. We have significant facilities' needs on our campus, lots of deferred maintenance that needs to be addressed. I would say we're still returning to normal scenes post-pandemic, so there are still some issues with people getting back into being together in person and the operations side and the instructions side."*

— Academic Leader, the Americas

> *The issue of improving student assistance. I'm talking about support in terms of university restaurants, student residences, improving the quality of residences, monitoring the issue of mental health of our students. Across the university the physical infrastructure is also very weak. I believe that if we invest in infrastructure and student assistance we will have happier people who feel part of the institution. This impact can be very good, not only for students but also, for staff, both teachers and administrative technicians, who give us all the administrative support."*

— Academic Leader, the Americas

Improving student welfare is a high priority for 67% of leaders and 58% feel prepared to address this challenge. Leaders in the Americas place more emphasis on student welfare (80% see this as a high priority and 67% are highly prepared), while the challenge is a priority for 57% in EMEA and 63% in APAC.

Affordability and representation are concerns; students are mobilizing

58% of leaders say ensuring affordable student fees is a high priority

53% of leaders are highly prepared to deal with this

Students face many of the same financial pressures acting on institutions, including rising costs of living. Recent reports suggest that students in the UK are missing meals and not completing their courses due to financial problems[13]. As such, cost is a major consideration for them in choosing a university. According to the 2022 Barnes and Noble College Insights survey, the top factors driving students' decisions are return on investment, cost of attendance and career preparedness.[14]

This is also evident in the current study. Ensuring affordable student fees is a high priority for 58% of academic leaders globally. This seems to be more of an issue in the Americas (73%) and there is some concern that discontent on campuses is growing as students are demanding better representation, driven by a desire to secure a better return on their college investment.

In the current study, one US-based leader shared an example of campus labor activism spurred by the growing cost of living and the mounting debts they are facing.

> *Students and postdocs are striking because of salary issues, cost of living issues and affordability of housing. There are limited resources, so if we give them a lot more money and the funding doesn't increase, it means that you reduce the size of research programs. I'm greatly concerned about the impact this will have on graduate programs across the nation... I don't think we've prepared students enough for the career opportunities which now present themselves. Maybe 20 years ago, the core opportunities were largely in academia but now, they're in industries and the private sector."*

— *Academic Leader, the Americas*

In contrast in EMEA the high priority level is lower at 36%. However, one leader shared an example of activism at their university.

> *We just had a strike by our graduate students and post-doctoral fellows because they felt that they were not sufficiently compensated for the cost of living that they have to face... that has significantly increased our costs because most of the costs of doing research, or a large fraction of cost of doing research, is people cost."*

— *Academic Leader, EMEA*

Across the regions 53% of leaders are well prepared to deal with this challenge. Despite their concerns, those in the Americas have higher levels of preparedness (67%).

However, the risk of inaction in dealing with education challenges relates to a potential decline in the institution's reputation if it fails to accomplish one of its core missions. Half (50%) of leaders surveyed expect providing educational excellence through innovative teaching and learning to become a much greater challenge over the next five years, rising to 64% in EMEA.

To mitigate this, 82% of leaders need internal support, primarily by way of advisory boards and collaboration with colleagues. This support need is highest among leaders in EMEA (93%) and APAC (88%). In contrast, leaders in the Americas are more likely to call for technological solutions (87%) – for example, online learning, AI and analytical software.

Best practice: Fulfilling the institution's dual mission

Leaders and funders share examples of the ways they have successfully addressed the challenges explored in this chapter.

Research

To address research challenges, leaders are looking to tackle the causes at the source, with funding and human capital challenges identified as the most significant drivers of what leaders can achieve in research. Leaders' efforts are therefore mostly directed at securing the resource and talent needed to fulfil their research missions. They have focused on enabling more interdisciplinary projects, fostering collaboration internationally, and providing holistic solutions. But despite their best efforts, leaders require more support to address their research challenges.

Innovating in research to attract talent

Organizing research in an innovative way to enable interdisciplinary projects is helping universities attract talent, which in turn is impacting research excellence.

With regards to research and to attract the very best talented professors and researchers, we have created a number of interdepartmental institutes which are bringing together researchers from different departments to work on challenges.... since we have opened these labs, we have seen an enormous amount of researchers who want to come to our university."

— Academic Leader, EMEA

Collaborating to solve multiple research challenges

Universities around the world are collaborating with external partners, often private sector and governmental, to boost the sustainability impact of their research. For example, the National University of Singapore is partnering with Siemens to develop a new 'smart city' platform to improve the efficiency and sustainability of urban infrastructure;[15] Stanford University is partnering with Toyota to help self-driving cards operate more safely and reliably on public roads;[16] and the University of São Paulo partnered with Shell to reduce greenhouse gas emissions.[17]

Collaboration in international schemes and forging partnerships with the private sector has also helped leaders share the burden with those facing similar challenges and secure extra resource for research. Collaborating with industry and government also enables universities to increase the economic and societal impact of their research.

In one example, a university teamed up with other institutions to improve access to international funding.

[Country] has joined Horizon Europe as an associate member state so that's involved government doing that, it's involved lobbying from universities. We've had to put in place a whole system to support our staff getting Horizon Europe funding. We have already been successful with some bits and have got a huge buy-in from our researchers, probably related to the authority that we have given this in our communications and also, the support we have put in place to help people get there."

— Academic Leader, APAC

Holistic action to improve research output

Research excellence relies on many different aspects of a university, and academic leaders are taking holistic approaches to improve their output.

> *Previously the challenge had been delivering effective research outputs and impact. The action we took was to really significantly review our recruitment processes, put in place clear expectations for our academic performance, support early career researchers, provide internal grant funding for people to get going and pull together research centers to get people to work together. The overall impact was a significant improvement in our research performance."*
>
> — *Academic Leader, EMEA*

① Funders: improving processes to support research excellence

Some funders report changes to the peer-review process that have made decision making quicker and improved the quality of decisions, such as getting advice from experts, then writing a report for the funding committee based on their discussion.

> *Instead of doing all this [...] peer review, we'll group the applications we get into groups of about 10. Get a panel of six or seven people who are experts in that field together, bring the applicants in to get interviewed and let them have a discussion... which on the surface sounds like much more resource, but actually I've been able to reduce my team by 25%... We were sending out 6,000 peer review requests a year, which now is down to about 500 because we only need to populate these panels... it's really helped streamline and increase the quality of decision-making."*
>
> — *Funder, EMEA*

Education

Delivering educational excellence has been a challenge for some institutions as they emerge from remote learning approaches enforced during COVID-19, which resulted in a decrease in student retention and graduation rates.

Best practice initiatives center around interactive and innovative teaching methods. They focus on real-world problems and prioritizing student wellbeing through proactive hiring of trained mental help support staff to provide on-site care.

Looking ahead, many institutions are in the process of developing new study programs and courses, as well as new hybrid methods of teaching that take into account the developments they expect to see in AI and remote learning over the next few years.

Some universities are looking to intertwine research with education, providing students with exposure to research from their first year. In the US, some have sought funding from bodies like the National Science Foundation and the Department of Education to help make this shift. Leaders surveyed cited the following best practice initiatives:

Adapting teaching methods and innovating in pedagogy

Innovation in teaching is helping improve the student experience and support internationalization.

> *We have carried out a large number of teaching reforms to cultivate outstanding innovative talents through innovative education models. These include creating a learning environment that fosters the integration of students, technology and teaching, promoting personalized learning, and constructing interdisciplinary frameworks to enhance the connection between disciplines to address complex real-world problems.*"

— Academic Leader, APAC

> *We are setting up ... new forms of teaching on new Masters programs, internet-based Masters programs, so that we have the possibility to attract people from outside... It is part of an internationalization strategy... it is very important for us that we also try to work quite closely with other universities... tryingto strengthen the whole system by working together.*"

— Academic Leader, EMEA

> *We created a task force to focus on changing curricula and improving pedagogy. One of the reasons for this is that we launched it right as the COVID pandemic was starting, so we switched to fully remote working for more than a year. We saw a decrease in retention because of COVID but now, we're trying to readdress this... We've been focusing on specific courses, especially courses where there is low success rate.*"

— Academic Leader, the Americas

Enriching campus life and supporting wellbeing

Improving the student experience is helping some institutions boost student retention. They are doing this by hiring trained counsellors and enhancing their student support services, including better structures to support student wellbeing and mental health, as well as better student engagement post-COVID.

> *We've gone from teaching everything online during COVID to now teaching mix-mode... and that's had all sorts of challenges for student experience... The solution to that is to focus on building up the student community and students' events to make campus life more enriching than just turning up for your lecture or your tutorial. That simple strategy has significantly improved the number of students that have returned back to campus full time and are actually on campus.*"

— Academic Leader, APAC

> *I believe that if we invest in infrastructure and student assistance we will have happier people who feel part of the institution.*"

— Academic Leader, the Americas

Dedicated facilities to cater for students' psychological wellbeing and helping them meet their basic needs have been established in the USA.

> *When we talked about the challenge of addressing student basic needs, we opened a basic needs center and we've been successful in addressing student mental health, housing, food and security issues.*"

— Academic Leader, the Americas

> *[To address] the mental health of students, the action has been hiring more mental health staff. The impact has been less mental health challenges for our students. For example, less depression, anxiety and suicidal ideation.*"

— Academic Leader, the Americas

Chapter 2 references

1   Lepori, B, Edlund, P & Cavallaro, M. [12 Oct. 2023] Funders and Researchers Shaping and Reshaping Grant Competition: Insights from the European Research Council (**https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4600284**)

2   Scandura, A., Iammarino, S. [2022] Academic engagement with industry: the role of research quality and experience. J Technol Transf 47, 1000–1036 (**https://doi.org/10.1007/s10961-021-09867-0**)

3   Gopalakrishna G, ter Riet G, Vink G, Stoop I, Wicherts JM, Bouter LM. [2022] Prevalence of questionable research practices, research misconduct and their potential explanatory factors: A survey among academic researchers in The Netherlands. PLoS ONE 17(2): e0263023. (**https://doi.org/10.1371/journal.pone.0263023**)

4   Mejlgaard, N, Bouter, L.M., Gaskell, G, Kavouras, P, Allum, N, Bendtsen, A.K., Charitidis, C.A., Claesen, N, Dierickx, K, Domaradzka, A, Elizondo, A.R., Foeger, N, Hiney, M, Kaltenbrunner, W, Labib, K, Marušić, A, Sørensen, M.P., Ravn, T, Ščepanović, Joeri, T, Tijdink & Veltri, G.A [12 Oct. 2020] Research integrity: nine ways to move from talk to walk (**https://www.nature.com/articles/d41586-020-02847-8**)

5   Keystone Education Group [2023] State of Student Recruitment 2023 (**https://4722110.fs1.hubspotusercontent-na1.net/hubfs/4722110/SSR%20full%20report%202023.pdf**)

6   Chawla, D. [8 Feb. 2023] US funders must do more to ensure research reliability (**https://www.nature.com/articles/d41586-023-00361-1**)

7   Ibid.

8   Commons Science, Innovation and Technology Select Committee [10 May 2023] MPs call for research sector reforms to address concerns with reproducibility of science (**https://committees.parliament.uk/committee/135/science-innovation-and-technology-committee/news/195158/mps-call-for-research-sector-reforms-to-address-concerns-with-reproducibility-of-science/#:~:text=The%20report%20notes%20that%20despite,claimed%20findings%20of%20experiments%20or**)

9   Baker M. [May 2016] 1,500 scientists lift the lid on reproducibility - Nature (News Feature). Springer Nature. 533 (7604): 452–454.

10   Australian Government Productivity Commission [16 Nov. 2020] Mental health: Inquiry Report (**https://www.pc.gov.au/inquiries/completed/mental-health/report**)

11   Marshall, S. [17 Apr. 2023] Teaching excellence and solving global challenges in higher education (**https://www.hepi.ac.uk/2023/04/17/teaching-excellence-and-solving-global-challenges-in-higher-education/**)

12   Baugher, P. [20 Nov. 2023] Universities report continued spike in students seeking mental health services (**https://www.thecollegefix.com/universities-report-continued-spike-in-students-seeking-mental-health-services/**)

13   Williams, T. [26 Jan. 2023] UK students increasingly skipping meals as cost of living rises (**https://www.timeshighereducation.com/news/uk-students-increasingly-skipping-meals-cost-living-rises**)

14   Burt, C. [28 June 2022] College 2030, Part II: The 5 challenges higher ed leaders must address (**https://universitybusiness.com/college-2030-part-ii-the-5-challenges-higher-ed-leaders-must-address/**)

15   Siemens Press Release [4 Mar. 2019] Siemens and Nanyang Technological University Singapore in research collaboration to optimise building performance (**https://press.siemens.com/sg/en/pressrelease/siemens-and-nanyang-technological-university-singapore-research-collaboration-optimise**)

16   Stanford Engineering (**https://aicenter.stanford.edu/about**)

17   Moraes, M. - Research Centre for Greenhouse Gas Innovation (**https://sites.usp.br/rcgi/about-rcgi/institutional/**)

Chapter 3

Impact

Demonstrating value and garnering support from society

Under increasing pressure from a range of stakeholders, notably funders, it is critical for universities to demonstrate their impact. This includes scientific impact and extends more broadly to economic, societal and environmental impact. Most leaders consider demonstrating impact across these areas high priority. But looking at how prepared leaders are to meet some of the challenges, there are concerning gaps. Leaders surveyed share some of their approaches to solving this, including establishing dedicated offices and collaborating externally.

- 79% of academic leaders agree a new approach is required for research assessment and 80% set a high priority on demonstrating societal impact

- 74% of leaders say demonstrating scientific impact is a high priority, and 57% are well prepared to do this

- 67% consider demonstrating economic impact a high priority and only 30% say they are well prepared for the challenge

- 55% of leaders say their institutions should be most concerned with providing real-world benefits

- 72% say ensuring public has awareness and understanding of our activities is a high priority and 33% are well prepared for this challenge

> *... the higher education sector needs to change with the times, including rediscovering, and reaffirming, the public purpose of universities."*
>
> *— Jonathan Grant, writing in* Times Higher Education[1]

As we saw in chapter 2, research and education are critical elements of success for a university. However, the processes and outputs alone are not enough: to succeed and to remain viable over time, universities need to demonstrate their value and impact to a range of stakeholders, including funders, governments, current and potential employees and students, the media and the general public.

Demonstrating value and impact to these groups brings a range of benefits. For example, stakeholder pressure encourages researchers to think about the wider effects of their research and have a bigger impact on education, research and society. Universities can attract and retain students and staff, and use their accountability to work towards their mission.[2,3]

This is no longer a voluntary exercise for most universities. Major funders like the European Commission (through its Horizon Europe fund) and the National Institutes of Health (NIH) in the USA commonly require the projects they support to illustrate their broader societal benefits. There are examples at the institutional level too. Harvard and the University of Michigan have launched a Detroit-based initiative to boost local societal impact by seeking to address economic mobility and the opioid crisis.[4]

To secure continued consent from taxpayers to maintain public funding, and preferably to put it on a more sustainable basis,[5] the public needs to be aware of the positive contributions that universities make. All of this comes at a time when the funding model for higher education is under increasing strain.[6]

National governments increasingly expect universities to demonstrate the economic and commercial benefits of their output to society and the country.[7] Universities also need to showcase their value and impacts to progress in global academic rankings and, since 2019, impact rankings.[8]

In their interviews, some leaders acknowledge the increased societal pressure they are under to demonstrate their broader impact in a variety of different ways.

> *...people want to see, policy makers and society, what we are contributing with our impact to regards to societal challenges with the ageing population situation, to climate change and green transition. So the greater focus on impact leads us to much more presenting, explaining to society and to show them what we are doing for them."*
>
> — Academic Leader, EMEA

Universities face a significant challenge in promoting their output and increasing public awareness of their work. Initiatives to boost public engagement are underway, with scientists turning to social media to communicate the results of their research and foster two-way exchanges with the public.[9] For example, amid a trend of science denialism following COVID-19,[10] researchers in Brazil identified a pro-science wave, suggesting the pandemic connected scientists and the public.[11]

However, there is evidence to suggest that universities in the USA and Europe are increasingly failing to connect with and convince the public of their value. A 2023 Gallup survey of US adults found that Americans' confidence in higher education has fallen sharply over recent years, from 57% in 2015 to 48% in 2018 and 36% by 2023.[12] A study of researchers conducted by Elsevier in partnership with the Economist highlighted that misinformation impacted the public perception and was a growing concern, with over two thirds of respondents saying that the pandemic increased the importance of separating good quality research from misinformation.

Impact – levels of high priority and high preparedness

Key:
- ■ % High priority: priority 8 to 10 on a scale from 0 to 10
- ■ % High prepared: prepared 8 to 10 on a scale from 0 to 10
- Global = 46
- ● Americas*
- ● EMEA*
- ● APAC*

* Base sizes for regions are below 20 and provide an indicative read.
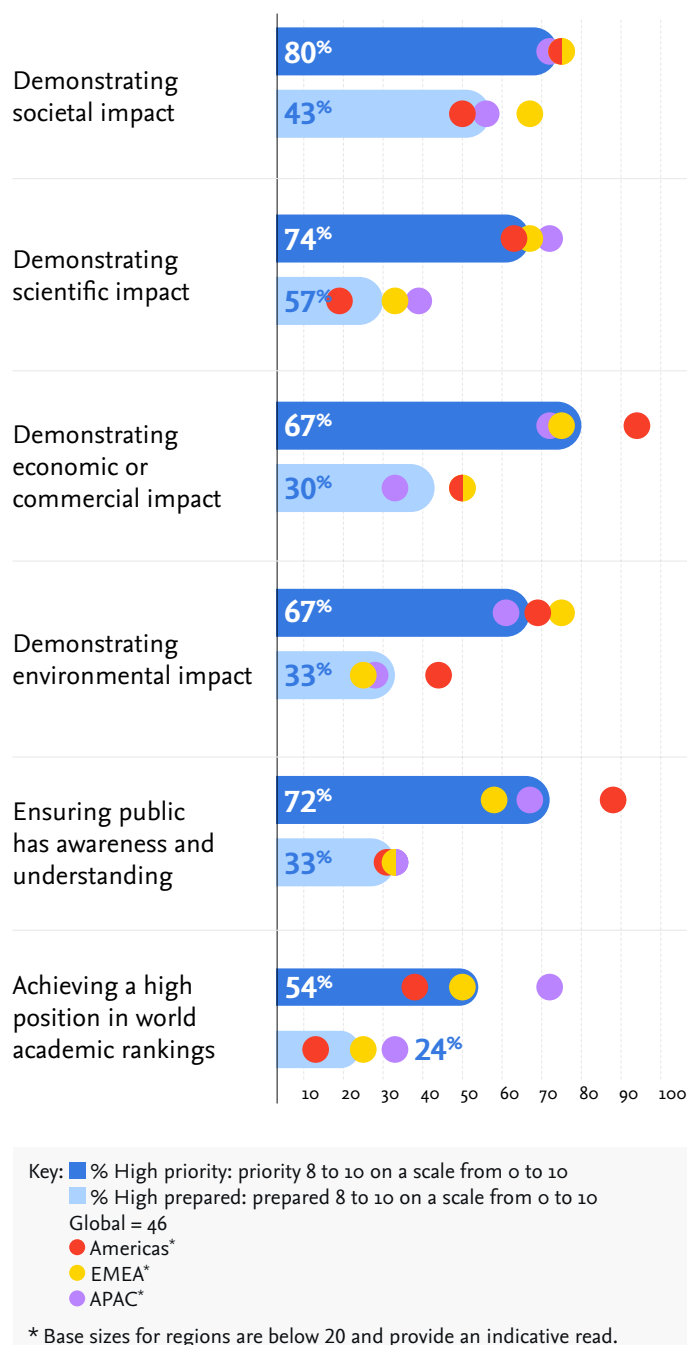
Figure 13

Question: We would now like you to consider some of the following potential challenges. For each, please indicate the current priority that your organization has assigned to addressing this challenge over the next 12 months, where 0 is very low priority, 10 is very high priority and the midpoint 5 is neutral.

Question: And how prepared, if at all, is your organization to address each of these same challenges over the next 12 months? Again please use a 0 – 10 scale, this time where 0 means 'Not at all prepared' and 10 means 'Extremely well-prepared'.

Demonstrating societal impact is top priority

80% of leaders say demonstrating societal impact is a high priority

43% of leaders are well prepared to do this

Demonstrating the societal impact of their institution is of most importance to leaders surveyed. Almost four in five leaders globally rate this challenge as a high priority, peaking at 94% in the Americas and lower in APAC at 72%. Across all regions, however, levels of high preparedness lag well behind the high priority given to this challenge, most notably in APAC (33%).

Leaders face challenges in receiving recognition for the measures they put in place to make a positive impact on the communities in which they operate. Societal initiatives have longer incubation and development phases, and universities tend to reap reward for initiatives that can be more easily quantified. Most leaders recognize that existing measures of impact are linked to well-established indicators such as publications and citations that do not reflect a broader impact of their activities: 79% agree a new approach is required for assessment.

Moving away from a dependency on traditional scientific measures
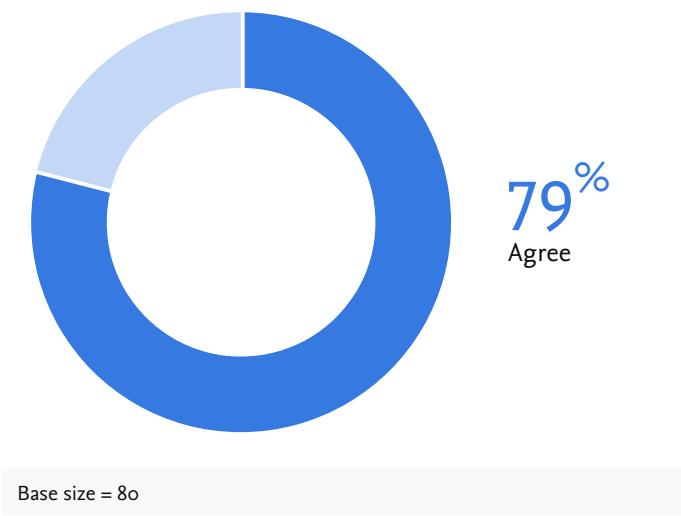

79% Agree

Base size = 80

Figure 14

Question: To what extent, if at all, do you either agree or disagree with the following statement: Moving research assessment from a dependency on publications and citations requires a new approach to rewarding and recognizing researchers. This time please answer using a 1 to 5 scale, where 1 means Strongly disagree and 5 means Strongly agree.

> *Most often, the impact of research is measured through things you can count like patents, publication and funding dollars, but what is true impact, the societal impact and the delayed impact? The things you may do in the next few years may bear fruit in five years. How many lives have been changed, how many long-term health outcomes have been changed and what are the social escalators? There is some framework for this, the United Nations Sustainable Development Goals, but in general messaging, social impact of research is very hard."*
>
> *— Academic Leader, the Americas*

Demonstrating scientific impact is a priority

74% of leaders say demonstrating scientific impact is a high priority

57% of leaders are well prepared to do this

Given the growing importance of demonstrating value and impact, its long history in academia, it's perhaps unsurprising that most academic leaders consider demonstrating scientific impact to be a high priority. And it is this form of impact that leaders feel most prepared to demonstrate, with over half well prepared.

Leaders are less prepared to demonstrate economic impact

67% of leaders consider demonstrating economic impact a high priority

30% of leaders say they are well prepared to do this
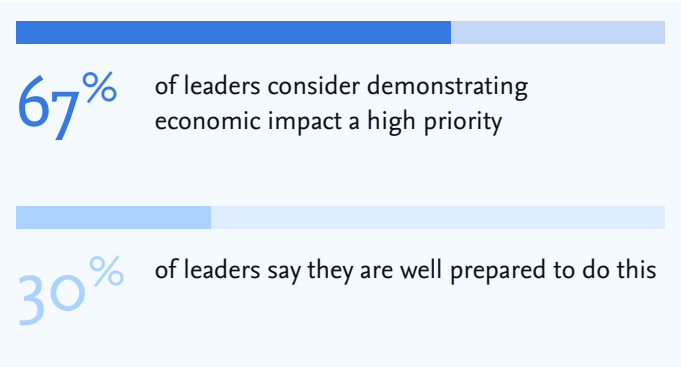
Notably, leaders consider demonstrating other kinds of impact – economic, societal and environmental – just as important as scientific impact, but they are less prepared to address this challenge.

Two-thirds of leaders consider demonstrating economic impact a high priority, yet less than one-third say they are well prepared to do this, with those in the Americas less prepared at 19%. Recent studies illustrate this preparedness gap: in Australia, policy analysis suggests that some higher education institutions may not be highly motivated to derive the maximum commercial value from their research. A 2021 government discussion paper argued that universities in Australia have *'weak incentives to commercialize research which has commercial potential'*.[13]

A similar pattern is evident for demonstrating environmental impact, with 67% of leaders considering this a high priority but only 30% being prepared to tackle it.

Leaders prioritize demonstrating institutions' real-world benefits

Among the leaders interviewed, 55% agree that their institutions should be most concerned with providing real-world benefits. This would enable them to support students' holistic development as citizens and incorporate career readiness into education delivery.

This sentiment is reflected in other research. For example, in the *Back to Earth* survey, 66% of respondents agreed that academia has a moral obligation to incorporate real-world impact into research evaluation.[14]

Providing real-world benefits
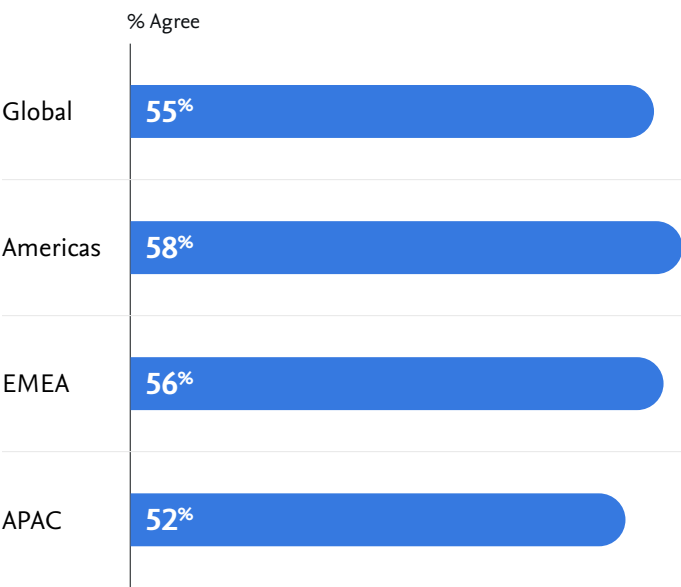
% Agree

Global	**55%**
Americas	**58%**
EMEA	**56%**
APAC	**52%**

Base size: Global = 80, Americas =26*, EMEA = 25*, APAC = 29*

*Please note: base sizes below 30 provide an indicative read.

Figure 15

Question: To what extent, if at all, do you either agree or disagree with the following statement: Our institution's primary concern should be on providing real-world benefits. This time please answer using a 1 to 5 scale, where 1 means Strongly disagree and 5 means Strongly agree.

Leaders expect their community engagement role to be impacted

72% of leaders say ensuring public has awareness and understanding of their activities is a high priority

33% are well prepared for this challenge

One of the main channels for demonstrating impact and value is public engagement. In the current research, 72% of leaders say public awareness and understanding is a high priority, with agreement highest in the Americas at 88%. However, there is a substantial priority-preparedness gap, with only 33% of leaders surveyed feeling well prepared to address this challenge (see figure 13).

When leaders consider all the various challenges that their organization currently faces, 82% think they will impact their community engagement over the next two to three years, with 34% expecting the impact to be major or severe.

Supporting the student transition from education to the world of work

One of universities' major societal impacts comes in the form of work-ready graduates. Many employers report being unable to find suitable candidates among graduates.[15]

> *Workforce-ready students… The challenge for our sector, at the moment, is that there is a perceived disconnect between a university education and the skills required in the workforce. That disconnect between the two is a significant issue that the universities here need to address."*
>
> — Academic Leader, APAC

In the current study, some leaders also noted the wasted investment of teaching this way.

> *I feel we're too much in an old model. It's too expensive for the current world we're moving into so we need a new approach."*
>
> — Academic Leader, APAC

This reinforces the need for multidisciplinary approaches in education and research, networking to tackle future problems, and developing digital skills, particularly around AI. Some leaders identified this as an area of opportunity in the medium term.

> *The biggest opportunities lie in the fact that teaching has been changing a lot worldwide. Those who can better work with this generational change, with this change in teaching, by making teaching more active, by making students participate more in society… If the university has a closer contact with society and offers more solutions to society, this can have a very big impact."*
>
> — Academic Leader, the Americas

A potential long-term solution leaders shared involves collaborating with various stakeholder groups to ensure a balance between quality and quantity in education – to ensure as many students as possible graduate, without compromising on educational standards.

> *Balanced development of education quantity and quality… is one of the biggest challenges. Only by solving this problem can universities strengthen their social responsibilities and improve the quality of education. Ultimately this will reduce the difficulties students face in finding employment after graduation and adapting to the labor market. We need to work together by linking efforts between various government ministries, universities and the local community. But coordinating them is not easy… Efforts to gain social consent will take at least 10 years."*
>
> — Academic Leader, APAC

A lack of evaluation frameworks makes progress hard to show

Leaders can choose from a variety of methods for evaluating their social impact, which poses a challenge, as there is no single accepted evaluation framework to rely on.[16] In the *Back to Earth* survey, 56% of respondents said the lack of a common framework is the key barrier to assessing research's impact on the world.[17] In addition, the myriad Environmental, Social and Governance (ESG) measurement systems make it difficult to objectively evaluate contributions to sustainable development within a universally recognized framework.

> *We're still struggling with the societal and social impact piece... We are lacking tools on the data analytics. The tools for assessing the impact in some spheres is clear, like you can count publications, citations and patterns, but for social impact, it's difficult. There is no universal tool, there are some frameworks like United Nations Sustainable Development Goals, but they are just emerging, so we are looking for new ways to track that... It's beyond a research problem, it's a social problem."*

— Academic Leader, the Americas

These challenges were highlighted in the Elsevier report *The Future of Evaluation: Emerging Consensus on a More Holistic System.*[18] The report concluded that, in addition to a common framework, an upgraded toolbox of qualitative and quantitative approaches would be needed. It also suggested that AI has a role to play in evaluating impact.

International rankings are an important and high-profile source of external validation, but they can serve to encourage short term planning. Rankings can also negatively impact social initiatives as resources are re-routed to encourage international students and the revenue they generate.

> *[International ranking systems] become quite dominant and it creates a bit of perverse behavior in the sense that it forces a short-term approach to things. We are competing on the international student market, so you need to improve your university rankings and for that you need to make some short-term decisions. So you are not always thinking about what's the 10-year impact on these major societal problems. We just need to generate outputs, bring in money, things that are not necessarily in society's best interests, but it's the way international students pick places now, so we have to play that game."*

— Academic Leader, EMEA

To demonstrate value and garner backing from society, universities need guidance. Every leader interviewed for this study says to demonstrate impact they need enhanced external collaboration and input from lawmakers and regulatory bodies. Furthermore, nearly three-quarters (72%) say their institution needs support with more internal collaboration.

The funders' perspective

Funders' primary concern is ensuring that the funding leads to meaningful societal impact, especially when the funding is targeted towards societal goals. However, many funders struggle with how to measure and assess this impact effectively. Most funders consider all the challenges involved with demonstrating outcomes and impact high priority, though very few feel well prepared to address them.

> *We used to judge only on the basis of what I would call the science or access of publications. Now we have a two-access approach. You can choose only science or can say you're good on science and impact and then, you can give information and demonstrate what the impact is. That has worked out. It has been highly appreciated by the research society although we still have to wait 5 years before we know what the overall outcome will be."*

— Funder, EMEA

The overemphasis on positive results may discourage risk-taking in research. Many societal challenges require innovative and risky approaches, but the fear of failure and the potential loss of future funding may discourage researchers from taking necessary risks.

> *[...] it is quite difficult to progress seamlessly from fundamental research to social implementation. By this, I mean when the industrial sector commercially releases the results obtained from fundamental research conducted by universities and research institutions, there is a gap known as the Valley of Death. How funding can overcome this gap is a very large challenge."*

— Funder, APAC

Best Practice: Impact

Demonstrating value and impact is increasingly important as universities strive to bolster their cultural and intellectual capital and build trust and support for their work among the public and their stakeholder communities. Leaders have tried various approaches to communicate their success, including ensuring research is aligned to global established frameworks, establishing impact functions, enabling international cooperation.

Setting a strategic path

Universities are looking to demonstrate to the wider community how they benefit society and the environment. At the same time, faculties are looking to align the focus of their research work with global frameworks like the UN Sustainable Development Goals (SDGs) while also solving problems at the national level. This includes launching campaigns to convince local and national governments of their value and using research information management systems to help them showcase their impact.

> *[The biggest challenge is] the implementation of our new strategic plan... and whether our scope of impact is wide enough. There is sometimes a gap between what we think we have done and what the expectation is. Another challenge is that the impact has to be relevant to all of humanity, globally. We are a key institution in [my country], so we also have to demonstrate that we are making an impact in [my country]. The two are often aligned, but not always 100%."*
>
> — *Academic Leader, APAC*

Creating impact functions within the institution

Given the importance of demonstrating impact to a variety of audiences and for different purposes, some universities have created specific roles and offices to meet their needs.

> *We have put a lot of effort into [increasing awareness of our research impact] and created an office called 'Research profile and impact'. That has really made the case publicly and through the media for the kind of work that we do as a research-intensive institution."*
>
> — *Academic Leader, APAC*

Investing time in the process

While the work of demonstrating impact is ongoing, the challenge is seen as a long-term one, with results expected over the next five to ten years.

> *We will be convincing state and local government that we're of value. We're going to have a campaign to show our community and public impact. We're going to very clearly articulating how we benefit the community. This will take years to have an impact. If we're successful, maybe five years."*
>
> — *Academic Leader, the Americas*

Collaborating to evaluate and communicate impact

Collaborations help universities to demonstrate best practice when it comes to external impact through robust evaluation. As centers of learning and research, universities demonstrate the value of their scientific contributions and showcase their commercial, environmental and social impact. Many institutions are seeking partnerships on large scale projects to enhance this.

Our plans involve a real emphasis on communicating the value of the research that we do. We are working collaboratively with other research-intensive institutions in this country including a group called the U15, making our case to our federal funding agencies and the ministry and the federal government that is responsible for that funding. We are hoping we are going to have an impact in the Spring federal budget. Then for that funding that we are hoping to see, to make its way through the system in another two or three years."

— *Academic Leader, the Americas*

Leading by example to demonstrate sustainability impact

Demonstrating impact on sustainable development can have many positive effects, particularly changing people's perception of the university. One academic leader is taking direct action to lead by example.

We have an initiative called Sustainable Smart Campus as a Living Lab. We hope that we can make some contribution to sustainable development and show people that we are committed. We have a series of measures, including installing photovoltaics on the roof of our university… As a result, our electricity consumption has been significantly reduced. With such measures, we are impacting the environment. Although our contribution to the environment is just a drop in the ocean, our university's message is quite influential."

— *Academic Leader, APAC*

① Funders: communicating value to boost support

In an interconnected world funders increasingly focus on communicating their role and the impact of the research they fund on improving society and stimulating economic growth. Increasing awareness and appreciation of the critical role funders make in advancing research is seen as essential for future success. Funders increasingly look to collaborate with foreign governments and global foundations to address worldwide problems. Whilst funders relentlessly focus on ensuring the best research proposals receive grants, they recognize success does not always result in more resources, notwithstanding they believe there is a promising trend of improved understanding and support from governments.

Chapter 3 references

1   Grant, J. [29 Mar. 2019] Measuring social impact allows universities to be held accountable (**https://www.timeshighereducation.com/opinion/measuring-social-impact-allows-universities-be-held-accountable**)

2   Ho, M. [9 May 2019] The Increasing Importance of Demonstrating #Impact in Education (**https://www.fenews.co.uk/exclusive/the-increasing-importance-of-demonstrating-impact-in-education/**)

3   Day, T. [31 Aug. 2023] How can we measure the true impact of universities? (**https://www.uiin.org/2023/08/31/how-can-we-measure-the-true-impact-of-universities/**)

4   Powell, A. [12 Sept. 2018] Harvard, U. of Michigan to tackle social ills (**https://news.harvard.edu/gazette/story/2018/09/harvard-university-of-michigan-to-tackle-social-ills-on-two-fronts/**)

5   Butland, B. [3 November 2022] Fixing the gap in research funding (**https://www.ukri.org/blog/voices-fixing-the-gap-in-research-funding/**)

6   Milton, J. [17 May 2022] University And College Presidents Face Challenges On The Frontlines Of Higher Education (**https://www.forbes.com/sites/forbestechcouncil/2022/03/17/university-and-college-presidents-face-challenges-on-the-frontlines-of-higher-education/?sh=6b1f1db659ad**)

7   McKenzie, F., Sotarauta, M., Blažek, J., Beer, A. and Ayres, S. [14 Sept. 2020] Towards research impact: using place-based policy to develop new research methods for bridging the academic/policy divide (**https://www.tandfonline.com/doi/full/10.1080/21681376.2020.1825117**)

8   Times Higher Education [2023] Impact Rankings 2023 (**https://www.timeshighereducation.com/impactrankings**)

9   Martin, C. [10 Nov. 2020] Using interpersonal communication strategies to encourage science conversations on social media (**https://doi.org/10.1371/journal.pone.0241972**)

10 Hofer, B and Sinatra, G. [5 July 2021] Science denial: Why it happens and 5 things you can do about it (**https://www.weforum.org/agenda/2021/07/science-denial-covid-pandemic-fake-news-missinformation-psychology/**)

11 Gomes, R, Augusto, A, and da Silva, M. [17 June 2023] The pro-science wave in times of denialism: Brazilian society's perception of science, scientists, and universities during the COVID-19 pandemic (**https://doi.org/10.1590/1413-812320232812.20212022EN**)

12 Gallup News Service – June Wave 1. [22 June 2023] (**https://d1y8sb8igg2f8e.cloudfront.net/230710ConfidenceHigherEd.pdf**)

13 Ross, J. [26 Feb. 2021] Australia tells universities to focus on commercialising research (**https://www.timeshighereducation.com/news/canberra-tells-sector-refocus-blockbusters**)

14 Elsevier [Oct. 2023] Back to Earth; Landing real-world impact in research evaluation (**https://www.elsevier.com/en-gb/academic-and-government/back-to-earth-download**)

15 Walecki, N. [12 Dec. 2022] Diagnosing the "Skills Gap" (**https://www.harvardmagazine.com/2022/12/education-employment-divide-partnership-imperative-report**)

16 Nietzel, M. [20 July 2023] AI Is Leading College Graduates To Question Their Job Readiness, According To New Survey (**https://www.forbes.com/sites/michaeltnietzel/2023/07/20/ai-is-leading-college-graduates-to-question-their-job-readiness-according-to-new-survey/?sh=21dc56a4104c**)

17 Reed, M, Ferre, M, Martin-Ortega, J, Blanche, R, Lawford-Rolfe, R, Dallimer, M and Holden, J. [May 2021] Evaluating impact from research: A methodological framework (**https://www.sciencedirect.com/science/article/pii/S0048733320302225**)

18 Elsevier [Oct. 2023] The future of evaluation Emerging consensus on a more holistic system (**https://www.elsevier.com/en-gb/academic-and-government/future-of-evaluation-download**)

Looking to the future

Leaders were asked to reflect on areas where thought leadership is needed most in the next 12 months. Their focus is on transformative and globally significant issues where universities have scope to use their knowledge, research capabilities and influence to create meaningful change. Looking further down the line, the two areas that were mentioned most frequently by leaders are artificial intelligence (AI) and climate change.

Artificial intelligence (AI)

Generative AI has recently entered mainstream use, with the launch of platforms like ChatGPT and Bard, bringing a multitude of benefits and risks to universities. As a result, many are beginning to issue guidelines for its use in education – both learning and teaching – and research, and they are building the governance needed to deal with its repercussions. This study highlights the priority academic leaders are placing on AI, with those in EMEA focusing more on AI governance. (See chapter 1 on page 34.)

As we have seen, despite the relative newness of (generative) AI in mainstream use, almost two-thirds (64%) of leaders already prioritize this challenge. Currently only 23% are well prepared to tackle the challenge (see chapter 1 on page 34). Academic leaders shared their concerns about AI, including how they prepare the workforce with relevant skillsets and how they mitigate risks like the falsification of research results while benefiting from the efficiencies and innovative potential AI offers (see chapter 1 on page 37 and chapter 2 on page 48).

Leaders expect to see a significant shift here in terms of preparedness. Many are already applying AI in their programs and research, and they expect to see this continue (see chapter 2 on page 49). This and previous research highlights the potential to use AI in evaluating impact (see chapter 3 on page 68).

Looking ahead, AI is identified as a transformative force that will affect all aspects of university functions, from teaching and research to administration. Leaders feel that thought leadership in this area is crucial to understanding how universities can best adapt to and leverage change. They call for expertise and urgency in dealing with this rapid technological evolution. Some expect AI to have a profound impact on research and education overall, including its content across a range of disciplines.

> *The single biggest topic must be AI. It is developing so fast and has so many breakthroughs. I have to study this topic myself. Artificial Intelligence will promote unlimited possibilities for cross-disciplinary collaboration."*
>
> *— Academic Leader, APAC*

> *AI is going to change everything about how we work at universities, particularly in the teaching but also, in the research. I don't think we have begun to scratch the surface of what that looks like."*
>
> *— Academic Leader, EMEA*

Climate change

Leaders are conscious that universities are expected to play a leading role in generating scientific-based solutions to the problem of climate change, developing new technologies and behaviors, and potentially influencing new regulations to tackle an issue that is profoundly global in its scope and ramifications. Some leaders believe that universities will need to radically reorganize their operations and education to contribute more significantly to solving climate-related problems.

" *Obviously, climate change is a major societal challenge and we need scientific-based solutions to that challenge. So we need new technologies, new ways of behaving and probably, new regulations."*

— Academic Leader, EMEA

Demonstrating impact will be an important aspect of leaders' approach to climate change as it becomes an increasingly critical issue globally. As one leader pointed out, thought leadership is part of the toolkit universities will have to demonstrate their environmental impact, both their direct impact as institutions and through research, and to engage the public with their work.

" *The climate crisis is definitely, in my mind, the area that needs the most attention. What I am seeing is an interesting phenomenon, where we have just come through a few years where climate change is terribly obvious to anyone...Surprisingly, students are actually moving away from the disciplines like climate and environment as undergraduate options, options that would allow them to engage with climate change. It seems they are almost afraid to engage with that topic now. I think the universities have to have thought leadership around actually making it very clear that this isn't really a theory, this is a reality, we have to act and our actions are seen by others. So how we are running our universities, what we are teaching, how we are approaching issues of climate change, I think that that kind of thought leadership is important for the public to realize, 'Oh, the ones at the university, they're understanding this, they get this'."*

— Academic Leader, the Americas

Concluding thoughts

> *There will be a redefinition of the core task of universities. That is something which we see happening now in a lot of countries, universities asking themselves what is our goal in society and for society?"*
>
> — *Academic Leader, EMEA*

Throughout this report, leaders share their expectations of how their priorities are likely to change in the short and medium term. The 'issues matrix', at the start of this report highlighted areas where there was a substantial gap between the perceived importance of specific topics and preparedness to tackle them. We saw leaders challenge their own thinking and approach, but throughout we saw any new approach remains rooted in core functions of research and education, both are reaffirmed as key priorities alongside an equally important priority of impact in the broadest sense, which is making many leaders deliberate on their objectives and in turn their strategy.

- **Enablers:** To deliver on their core functions leaders see funding, research infrastructure and talent as critical. 83% say securing funding generally is a high priority and securing research financing specifically a high priority (84%) for most academic leaders, but far fewer (49%) feel they are well prepared to tackle this challenge. Nearly four in five leaders surveyed around the world consider providing facilities for research a high priority. Most academic leaders say recruiting (73%) and retaining talent (80%) is critical. The vast majority (93%) say they need more funding to do this. Only 11% said they felt well prepared to offer competitive renumeration and benefits to staff.

- **Research and Education:** Nearly all leaders (93%) say research excellence is a high priority, but half feel well prepared to meet this challenge, and 82% say offering an excellent education is a high priority. Leaders feel research and education will become much greater challenges over the next 5 years.

- **Impact:** There is growing pressure to demonstrate the broader impact of research beyond traditional metrics. This includes showing alignment with global frameworks like the UN's Sustainable Development Goals (SDGs). 79% of academic leaders agree a new approach is required for research assessment, 55% say their institutions should be most concerned with providing real-world benefits. Two-thirds of leaders consider demonstrating economic impact a high priority but less than a third say they are well prepared to do this.

Whilst results are indicative there is variation by high-level geographic region:

Americas	Europe, Middle East and Africa (EMEA)	Asia Pacific (APAC)
• Higher level of perceived preparedness across most areas	• Higher priority for attracting international students, AI governance and research excellence	• Lower preparedness in many areas, including attracting the best students
• Key priority areas include securing funding, research infrastructure and offering excellent education	• Less prepared to manage rising research costs	• More prepared for attracting and retaining staff
• Lower priority and preparedness for performing well in international academic rankings	• Highest gap between high priority and high preparedness for AI	• Best prepared for achieving a high academic ranking

Funders hold similar views to academic leaders on the priorities of funding, research, and impact, and expect all three to become much greater challenges in the next five years, this is particularly true of impact. Funders generally consider themselves well prepared to meet the challenges associated with funding and research, but less well prepared to demonstrate impact.

Supporting academic leaders and funders

This report shares the challenges that academic leaders and funders are most focused on today. Many academic leaders shared their approaches to funding, talent, research, education, impact and many other challenges, and they are taking positive steps towards ensuring their universities are resilient and continue to fulfil their multifaceted missions as educational institutions, research centers and societal focal points.

Leaders and funders also highlight areas where they could benefit from support. No-one can do it alone. Success is likely best achieved when government, funders, universities and supporting partners work together to solve the challenges identified in this report. One of the areas of support mentioned throughout is digital technology (including software), which can strengthen strategy, education, research, impact and more.

As a global leader in information and analytics, Elsevier delivers insights that help universities and funders achieve their strategic goals. Our digital solutions combine quality information and data sets with analytical tools to facilitate insights and critical decisions, ultimately striving to create a better future worldwide. The findings in this report, and the insights academic leaders and funders share, enable us to shape these solutions so they continue to meet the needs of the communities we serve.

Acknowledgements

Sponsors

Academic leaders interviewed

Name	Role	Institution
Adam Tickell	Vice-Chancellor	University of Birmingham
Aidan Byrne	Provost	University of Queensland
Amanda Cockshutt	Academic Vice President and Provost	St. Francis Xavier University
Andy Schofield	Vice Chancellor	Lancaster University
Asrat Atsedeweyn	President	University of Gondar
Atsushi Sugeta	Executive Vice President (Research)	Hiroshima University
Basuthkar Jagadeeshwar Rao	Vice-Chancellor	University of Hyderabad
Bernard Brüne	Head of Dept. Biochemistry	University of Frankfurt
Camilo Younes Velosa	Vice Rector for Research	Universidad Nacional de Colombia
Carlos Gilberto Carlotti Junior	President	Universidade de São Paulo
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Elizabeth Treasure	Vice-Chancellor	Aberystwyth University
Elmer Sterken	Former Rector	University of Groningen
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Jaehyun Park	Dean of the College of Engineering	Inha University
Jens Ringsmose	Rector	University of Southern Denmark (SDU)
Jinlong Gong	Vice President	Tianjin University
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Jukka Kola	Rector	University of Turku
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Roberto Di Lenarda	Rector	University of Trieste
Rocky Tuan	Vice Chancellor & President	Chinese University of Hong Kong
Roger Ward	Provost	University of Maryland
Rufus Black	President	University of Tasmania
Tony Chan	President	King Abdullah University of Science and Technology (KAUST)
Yonghua Song	Rector	University of Macau

Funders interviewed

Participant	Role	Institution
Ágúst Hjörtur Ingþórsson	Director General	The Icelandic Centre for Research
Aldo Nelson Bona	Secretary of State for Science, Technology and Higher Education of the State of Parana	State Secretariat for Science, Technology and Higher Education –Brazil
Bindu Nair	Director, Basic Research	US Department of Defense (DOD)
Dan Burkwood	Director of Research Operations and Comms	Cancer Research UK
Enno Aufderheide	CEO	Alexander von Humboldt Foundation – Germany
Fulufhelo Nelwamondo	CEO	National Research Foundation – South Africa
Glenda Gray	President	South African Medical Research Council
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Yasushi Ogasaka	Head of Department of International Strategy	Japan Agency for Medical Research and Development (AMED)

We would also like to thank all other participants who chose to remain anonymous.

Appendix
Methodology

Elsevier worked with Ipsos on this project, which was conducted in two phases.

Qualitative phase

In April to December 2023, Ipsos held in-depth qualitative interviews with nine funders and six academic leaders. The majority of interviews were completed between April and August.

Individuals known to Elsevier and who have relationships with the company were interviewed. Elsevier contacted the interviewees and arranged the interviews. The interviewees come from various funding groups and academic institutions around the world and oversee their organizations' strategic challenges.

Specialist interviewers conducted the interviews via Microsoft Teams in the respondents' languages. The interviewers used a discussion guide, which was designed to help understand the wider context and inform the subsequent quantitative research. It was administered in a way that would allow respondents to discuss the topics that mattered to them. During each 45-minute interview respondents discussed their roles, the challenges they faced both now and in future, and the support they need to address these.

This initial exploratory qualitative phase was used to inform the design of a wider, quantitative survey, and findings have been incorporated into this report for context.

Quantitative phase

Following the qualitative phase, Ipsos and Elsevier designed a quantitative questionnaire to capture robust, conclusive data from a broader set of academic leaders and funders.

Between September and December 2023, Ipsos completed 100 semi-structured interviews with 80 academic leaders (±9.5% margin of error at 90% confidence levels) and 20 funders from around the globe. To ensure representation, we sampled to achieve a diverse mix of individuals at the highest level roles at leading academic institutions around the world. Elsevier identified or approved all institutions from which sample would be drawn, and Elsevier invited around half of the total achieved sample to participate.

- **Academic leader participants included:**
  Rector, President, Vice-Rector, Vice-President, Chancellor, Director and Provost.

- **Funder participants included:** President, Director, Vice President., General Secretary, CEO and Director General.

Questions were more closed in nature compared to those used in the qualitative phase, comprising of a series of scales designed to quantify perceptions of both groups. Opportunity was given to expand on certain questions to provide more context. The questionnaire structure centered on broad themes identified at the qualitative stage:

- Funding
- Human capital (talent)
- Research
- Education
- Outcomes and impact
- Political, technological and regulatory environment
- Institutional culture

In the interests of time, respondents saw detailed questions on four of these topics selected at random. They were asked to assign a level of priority to each topic, preparedness to address it and support needed in addressing the related challenges.
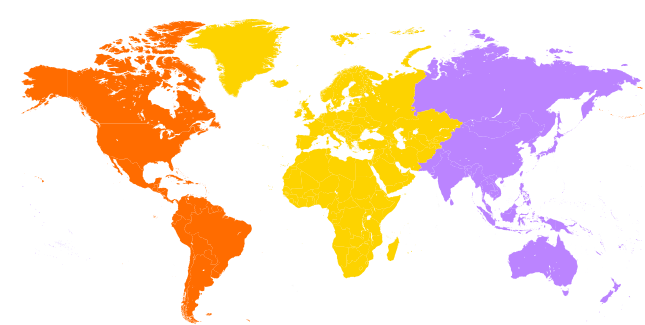
	Region	Qualitative study	Quantitative study
Academic leaders	Americas	2	26
	APAC	1	29
	EMEA	3	25
Funders	Americas	2	5
	APAC	2	6
	EMEA	5	9