2023 PwC Higher Education Leaders Survey

Disruption and opportunities in education

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Introduction

PwC is pleased to present the results from our fourth annual 2023 Higher Education Leaders Survey for South Africa. In 2023, higher education institutions (HEIs) in South Africa continue to grapple with a range of complex issues, including socio-economic disparities, inadequate funding, and structural inequality that affects access to quality education. These challenges are coupled with the escalating pressure to leverage and integrate emerging AI (Artificial Intelligence) tools, such as ChatGPT, into the educational fabric. While these AI tools present potential solutions for the systemic problems faced by higher education, they also set forth a new set of considerations and challenges.

ChatGPT and similar generative AI tools have emerged as potential game-changers for enhancing learning experiences and democratising education. They have the ability to extend educational access to remote and underserved communities in South Africa, thereby addressing some of the issues of educational inequality. The rapid advancement of AI has unleashed a wave of innovation, disrupting traditional paradigms and reshaping the higher education landscape. As educational institutions strive to meet the evolving needs of learners in a fast-paced digital era, AI emerges as a promising tool that holds immense potential to revolutionise teaching, learning, research and administrative processes, despite the many risks and challenges that accompany it.

Our 2023 Higher Education Leaders Survey delves into the sector's intent on digital and AI adoption, while also keeping track of other dynamics, such as the intensifying financial constraints that South African public universities face amidst frequent load shedding and funding shortfalls. Inadequate financial funding has the potential to ripple across various facets of higher education, from service delivery to the quality of education and research capabilities. It is characterised by a confluence of factors such as reduced intake of students, potential decreases in educational quality, and limitations in crucial innovation and research efforts.

This year's Higher Education Leaders Survey encapsulates the informed perspectives shared by various vice-chancellors and principals (from private colleges).

As a preeminent authority in the provision of audit tax and advisory solutions to the higher education sector in South Africa, PwC has the privilege of collaborating with many of the country's educational institutions, diligently aiding them in navigating their most critical challenges.

About this survey

Earlier this year, PwC conducted a survey among the vice-chancellors of public, and principals of private, higher education institutions. Of those targeted, 16 vice-chancellors from public higher institutions and four principals from private higher education institutions participated, responding to 22 qualitative and quantitative questions based on the following themes:

A Glimpse into the Future

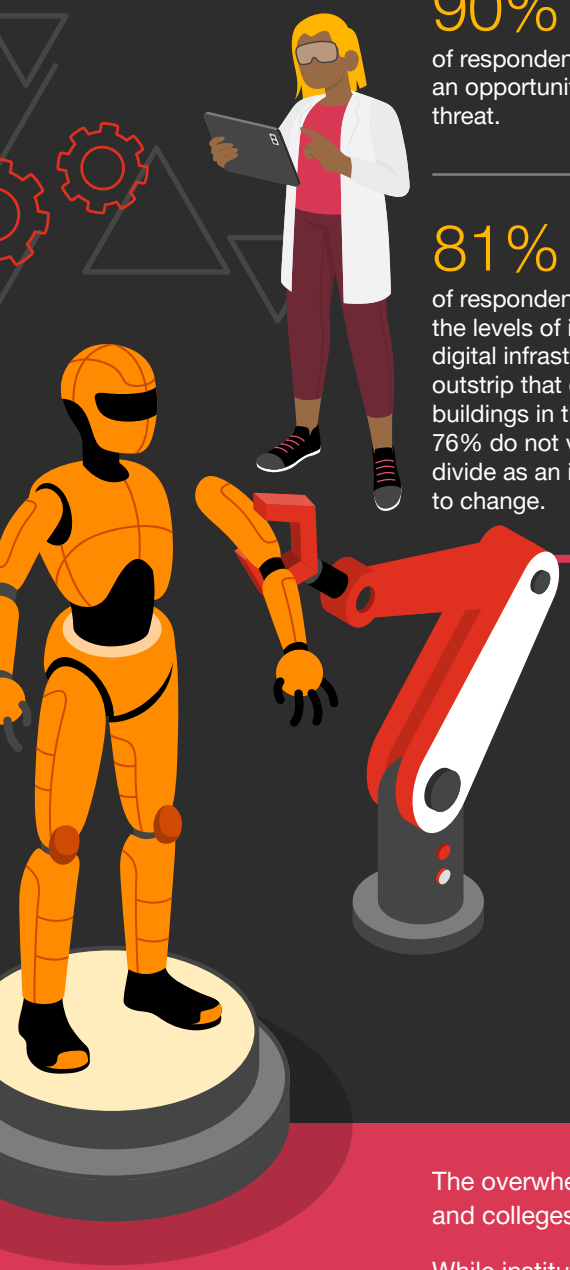
Navigating the challenges of Access and Quality

Funding: A Scarce Resource

Generative AI: Friend or Foe

The interviews were conducted through various methods, including in-person, virtual, and direct survey links. This survey marks the fourth consecutive year of its implementation, with the inclusion of the view from higher education institutions in the private sector.

Survey highlights



90%
of respondents view AI as an opportunity rather than a threat.

81%
of respondents predict that the levels of investment in digital infrastructure will outstrip that of physical buildings in the future, and 76% do not view the digital divide as an inhibiting factor to change.

52%
believe that the pace of change will require an industry-led approach, 24% disagree, while the remainder is undecided.

66%
of respondents agree that AI will play a central role in curriculum design and assessment in the future. Only 10% disagreed, leaving 24% undecided on the matter.

86%
of respondents did not believe that the increased use of digital technologies in education will prove less effective nor prompt a return to more traditional teaching approaches.

58%
of respondents agree that micro-credentials will become the norm in the future, 33% disagree and 9% are undecided.

18%
are already incorporating AI in curriculum development and processes using AI.

76%
of respondents believe that the role of the lecturer will evolve to mentoring and supporting learning experiences, instead of lecturing.

76%
of respondents predict that academics who complement their skills with industry experience will be highly sought after for leadership roles in higher education institutions.

21%
of the respondents stated that they are introducing AI powered chatbots to provide learning support for students.

71%
of respondents agree that higher education institutions will become fully agile in their approach to teaching and learning, adapting to new approaches rapidly, and in sync with industry trends.

43%
of HEIs are exploring investment in sustainable energy solutions, including solar, in an effort to decrease the long-term expense of diesel.

16%
stated that they are integrating AI into their institutions' research and innovation processes.

100%
of respondents agree that different delivery methods for teaching and learning will be deployed to suit a student's preferences.

The overwhelming sentiment amongst respondents (86%) is that government is not doing enough to revise the grant funding policies for universities and colleges to promote access and quality.

While institutions have diverse views on what needs to be done at a national level to increase financial aid for higher education students, 30% of respondents believe that public-private partnerships are a possible solution.

A glimpse into the future

Hybrid learning is here to stay, with the learning experience becoming more personalised. The lecturer of the future is also set to evolve, while curriculum design will be increasingly industry led to keep pace with change, with higher education institutions also set to become fully agile in their approach to teaching and learning.

Whilst there is much diversity in the vision that respondents had when future gazing, these were some of the more definitive trends as higher education leaders contemplated the next five to ten years.

Higher education leaders align on the future-fit lecturer

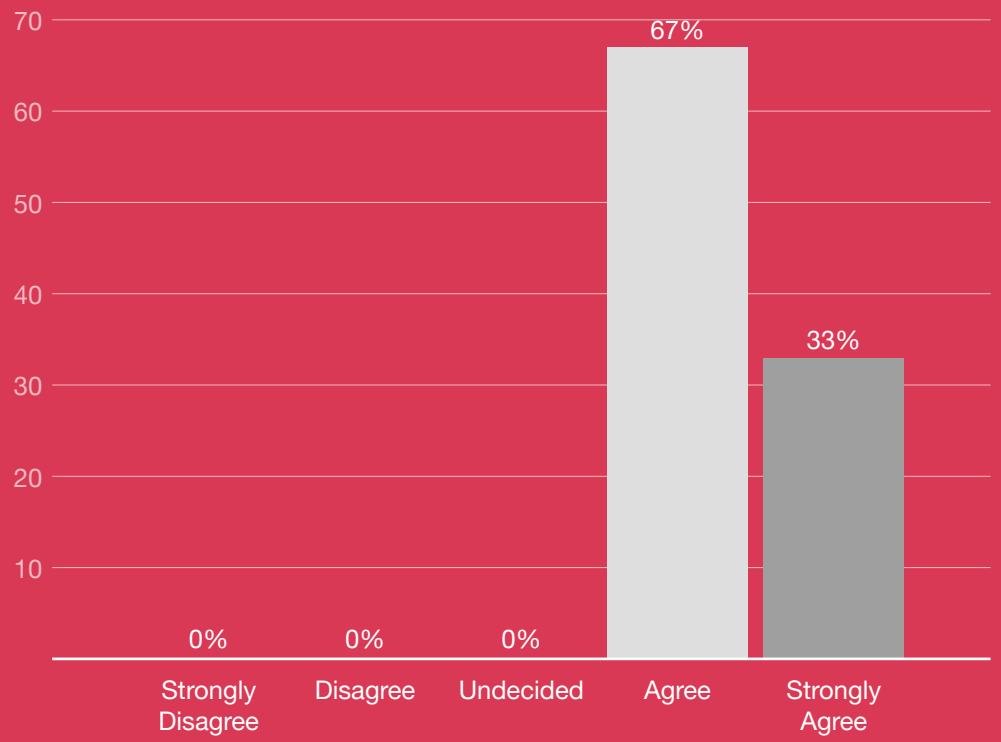
66% of respondents agree that AI will play a central role in curriculum design and assessment in the future. Only 10% disagreed leaving 24% undecided.

76% of respondents believe that the role of the lecturer will evolve to mentoring and supporting learning experiences, instead of lecturing.

71% of respondents agree that higher education institutions will become fully agile in their approach to teaching and learning, adapting to new approaches rapidly, and in sync with industry trends.

All respondents agree that different delivery methods for teaching and learning will be deployed to suit a student's preferences.

In the future, different delivery methods will be deployed for teaching and learning to suit a student's preference — hybrid, in-person, virtual, other



Central to these predictions being realised is the role of the lecturer of the future that emerges:

- One who can adapt to change…. rapidly.
- One who has not only good relationships with industry, but the ability to leverage these relationships for curriculum adaptation and change…at pace…and possibly one who has spent time in industry.
- One who is comfortable with AI, understands how to navigate and leverage this technology for teaching and learning effectively.
- One who is student-centric, and continuously evolving a more personalised approach to teaching and learning, and is comfortable with teaching and learning approaches across a variety of mediums.

Higher education leaders have set a high expectation for the lecturer of the future. Just as the world of work continues to shift, the world of work for the future lecturer must also evolve.

However, this evolution will require investment in aspects such as innovation in curriculum design, equipping lecturers with enabling technologies, and shifting to a culture of faster-paced change that many are not accustomed to. Importantly, given the constraints in attracting and retaining talent in the sector, an innovative employee value proposition will be essential.

This level of change is also likely to necessitate a rethink on long-standing traditions and bureaucracies that govern higher education processes, particularly in public universities.

But leaders are less aligned on the qualifications of the future

One thing is for certain though, higher education leaders believe that their institutions are here to stay. 76% of the respondents disagreed with the statement: the value of higher education will decline and diverse career and educational opportunities will emerge from within industry and others. Only 5% agreed to this, while 19% remained undecided.

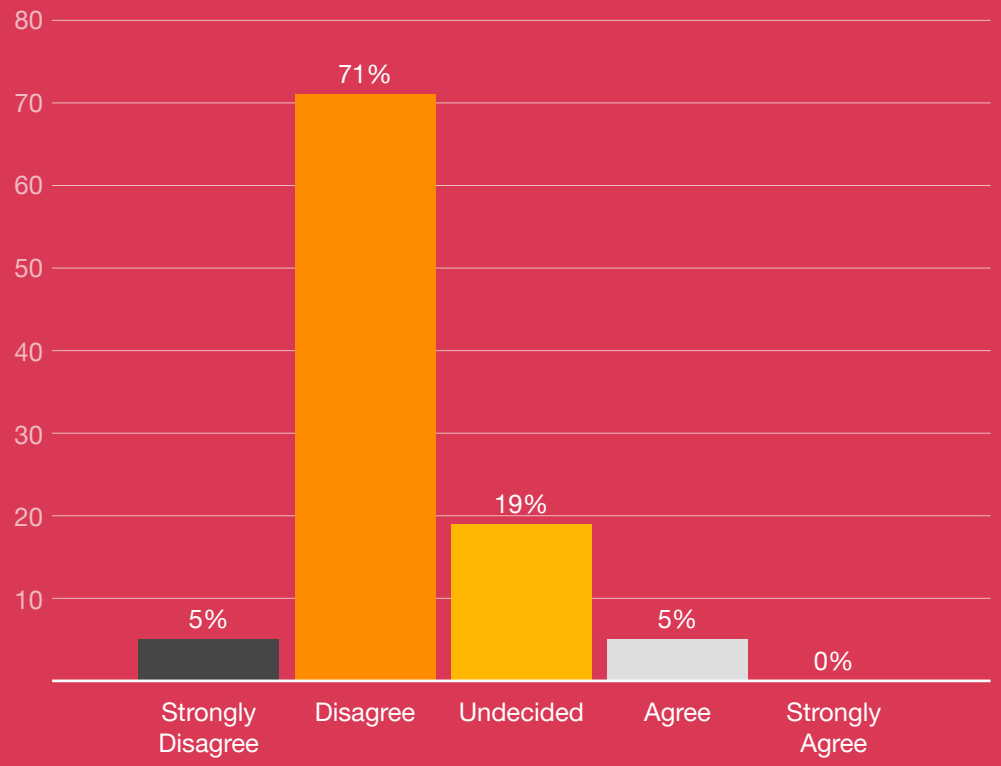
Central to the value that our higher education institutions bring is the quality and relevance of the qualifications they offer. The issue of relevance has long been debated and institutions have come under scrutiny from industry for not producing 'job-ready' graduates. This question of job-readiness continues to be hotly debated.

And while 71% of respondents agree that higher education institutions will become fully agile in their approach to teaching and learning, adapting to new approaches rapidly, and in sync with industry trends, only 52% believe that the pace of change will require an industry-led approach. On this matter, 24% disagree and a further 24% remain undecided. So while alignment and partnerships with industry are recognised, it's not that clear who will lead the charge on qualification content in the future. What is clear is that many universities are starting to see a change on the horizon.

There has been much commentary in the sector globally on the need for micro-credentials that are stackable towards a qualification. The World Economic Forum Future of Jobs Report 2023 predicts that 23% of jobs are likely to change by 2027, with 69 million new jobs created and 83 million eliminated. These job transitions require a life-long learning approach, including upskilling and reskilling of those already in the labour market. Micro-credentials that are stackable have the potential to play a practical and enabling role in achieving this.

However, while 57% of respondents agree that micro-credentials will become the norm in the future, 33% disagree while a further 10% remain undecided. Similarly, 57% of respondents agree that they will see a significant increase in older students embarking on upskilling and reskilling versus new graduates, while 24% disagree and 19% remain undecided.

The value of higher education will decline and diverse career and educational options will emerge from within industry and others



The matter of micro-credentials and the need for upskilling and reskilling our labour force are, in many respects, interlinked. Employees are more likely to look for learning opportunities that can be done in short sprints and part time, enabling them to work and learn. While there are many vocational training enterprises that target this market, higher education institutions are ideally positioned to provide significant impact in this regard. For public universities, the prevailing financial and capacity constraints, coupled with the need to navigate grant funding policies, may deter them from investing in this.

The role of micro-credentialing in South African higher education

The introduction of micro-credentials as a viable solution in South Africa heralds a transformative paradigm shift in the realm of higher learning and education. These innovative credentials are meticulously designed to cater to the precise needs of learners, equipping them with targeted knowledge, skills, and competencies that align with their personal aspirations, societal demands, cultural context, and the evolving requirements of the labour market. Embracing microcredentials presents an opportunity for higher education institutions to proactively address the dynamic needs of learners and the broader society, ushering in a new era of customised and impactful learning experiences.

The development of the micro-credentialing policy framework is currently underway through a dynamic collaboration involving multiple national, regional, and international organisations. Spearheaded by the Council on Higher Education (CHE), this joint effort is driven by a clear objective: to craft a robust national policy framework complemented by region-specific guidelines. The resulting roadmap will serve as a comprehensive guide, empowering institutions with the knowledge and insights needed to uphold the quality and integrity of micro-credentials across the entire higher education value chain.

However, there are several issues to consider in coming up with any policy framework such as a suitable definition for microcredentials in South Africa's context (World University News, 2023):

- Should they be registered on the national qualifications framework of other types of registers and whether they should be credit-bearing?
- How can the recognition of micro-credentials be enabled, including places of work?
- What is the relationship between microcredentials and full qualifications?
- Should micro-credentials be recognised in formal qualifications?
- Should the stacking of micro-credentials towards the achievement of a qualification be permitted?
- What criteria are needed if this is to be permitted?
- How should the quality assurance of micro-credentials and their offering be undertaken and by whom?
- Should a repository for micro-credential be set up?
- Who should be taking responsibility for the repository?

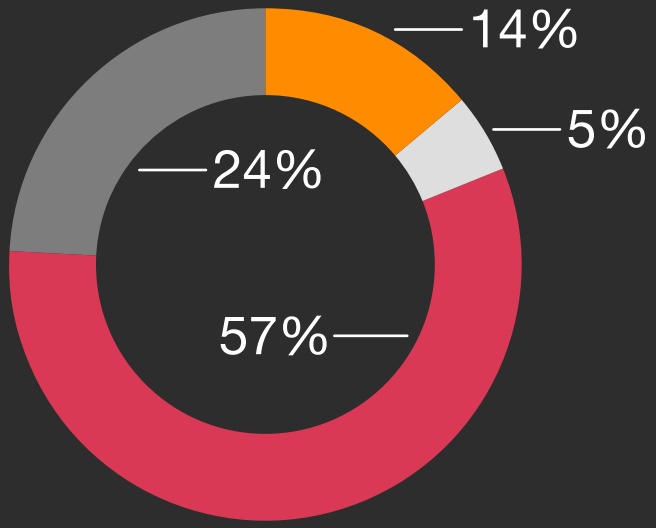
The latest version of Communiqué 2 of 2023 published by the Council on Higher Education highlighted the following to higher education institutions who are already offering micro-credentials:

As the policy framework on microcredentials undergoes development, it is imperative to acknowledge the advancements made by certain higher education institutions in offering these credentials. During this transitional phase, institutions offering microcredentials bear a significant responsibility to uphold the highest standards of quality and integrity throughout the entire value chain. This entails meticulous attention to the design of microcredentials, their approval at the institutional level, and seamless delivery. By ensuring rigorous adherence to these principles, these institutions can instil trust and credibility in microcredentials, ultimately enhancing their value for learners and stakeholders throughout their educational journey and beyond.

The role of technology remains key despite the digital divide

The COVID-19 years necessitated a shift to digital technologies as enablers to teaching and learning. This shift now appears to be permanent.

Levels of investment in digital infrastructure will outstrip investment in physical buildings



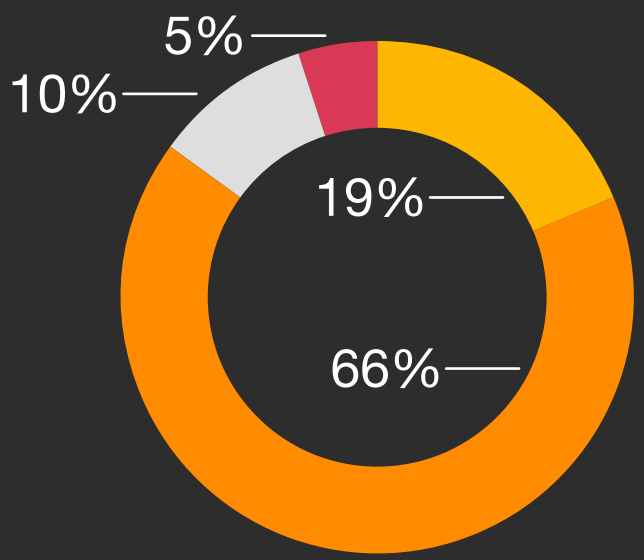
81% of respondents predict that the levels of investment in digital infrastructure will outstrip that of physical buildings in the future, and 76% do not view the digital divide as an inhibiting factor to change. This is significant and possibly signals a mindshift away from expansion using physical infrastructure as a primary enabler, but a recognition that such expansion may best be achieved through digital enablement. The 2023 academic year witnessed more than 4 million applications for under 200,000 places across the country for contact public universities. While the 4 million applications probably include many duplicates, the disparity between applications and available places reinforces the issue of access that we continue to navigate as a country.

With limited spaces available in the TVET sector, there are many students who simply do not gain access to post school education. In this regard, the private sector has a crucial role to play.

While the online learning offered during COVID-19 may best be described as a business continuity effort to sustain learning activity and is often criticised for not being able to deliver on the full learning experience, it did offer insight into what is possible across digital platforms. Higher education leaders appear to agree.

86% of respondents did not believe that the increased use of digital technologies in education will prove less effective nor prompt a return to more traditional teaching approaches.

The increased use of digital technologies in education will prove less effective and there will be a return to more traditional teaching approaches



Today, there are private schools and universities, both locally and globally, who are leveraging emerging technologies, such as the metaverse, and adapting their curricula to suit these mediums of teaching and learning. Technology can thus play a key role in addressing both the access issue and bringing down the cost of university operations over time.

To be successful, it requires an academic vision for how different curriculum approaches and teaching styles need to be adapted to suit the delivery mode for effective learning outcomes.

Sector cooperation and collaboration may be on the rise

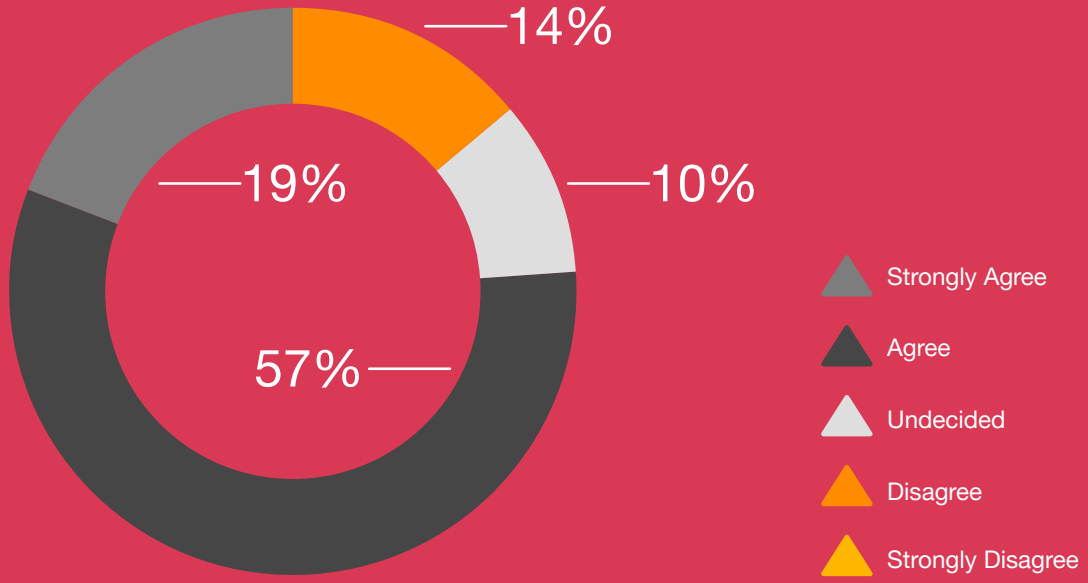
Public higher education institutions were more open to the notion of sector collaboration than private counterparts. 70% of public universities who responded were open to the notion of strong collaboration with each other, sharing resources and competing more with international institutions rather than each other. This bodes well as financial constraints continue to tighten and institutions having to do more with less. Beyond the obvious financial benefits though, is the strengthening of the sector as a whole if these levels of collaboration truly succeed. By leveraging each others' strengths, public universities could raise the overall quality of qualifications, accelerate innovation, and leverage scarce resources for the benefit of all.

While there is some level of reluctance about what the future holds, in general, institutional leaders see their institutions becoming more agile and fit for change. But change does not happen magically. It requires intent, the ability to execute, and strategic investment. Most importantly, it requires leadership.

Interestingly, 76% of respondents predict that academics who complement their skills with industry experience will be highly sought after for leadership roles in higher education institutions. This is a break from tradition and possibly signifies the extent of the change to come.

In November 2019, Colin Coleman, a prominent investment banker and partner at Goldman Sachs in South Africa, was appointed as a Senior Fellow at Yale University's Jackson School of Global Affairs, and is regarded as an expert on economic development challenges and opportunities across the African continent (Yale Jackson Institute, 2019)). More recently, Andre De Ruyter, the former Eskom CEO, was appointed as a visiting Senior Fellow at Yale University in July 2023, due to his expertise in crucial topics such as renewable energy and the green economy. His role will focus on the Just Energy Transition (JET) programme, which he pioneered during his tenure at Eskom and garnered over R150bn in financing for green energy projects in South Africa (Weideman, 2023).

Academics who complement their expertise with industry experience will be highly sought after for leadership roles in higher education institutions



Navigating the challenges of access and quality

To reach the vision of a truly relevant higher education that is agile in its response to industry and innovative in the design and delivery of meaningful learning, while accommodating for the needs of students, we need lecturers who are deeply invested and appropriately skilled in delivering this vision. What we're seeing however, are major challenges in attracting and retaining faculty who can make the kind of contribution that is needed to catalyse change in the sector.

The future-fit lecturer is at risk

We offered respondents a range of 15 different options when exploring the challenges relating to attracting and retaining experienced faculty members.

HEIs indicated their struggle to offer competitive salary packages to local lecturers and their ability to match international lecturers' salary expectations as the two most prominent challenges. Combined with the regulatory hurdles of bringing international talent into the country, this creates a substantial barrier to internationalising the academic workforce.

HEIs also believe that their location and condition of their infrastructure is a deterrent to potential candidates.

If we then look at the day-to-day experience of a lecturer, we're seeing that a high administrative and teaching workload, coupled with limited institutional capacity to create new positions and expand headcount – which subsequently increases the workload on existing staff – has impacted the ability of 22% of respondents to attract and retain sought-after candidates. Furthermore, the scope for institutions to support faculty research, which would ordinarily attract engaged and active academics, has decreased in 21% of institutions due to financial constraints.

The above does not create an appealing employee value proposition, and it is understandable why HEIs are not able to attract and retain talented academic staff. This is going to negatively impact the enablement of the 'Future-Fit Lecturer' as described earlier.

Arguably, HEIs need to completely review the holistic support offered to lecturers; from offering better financial incentives, to reducing their administrative workload, while building their capacity to support students to thrive in a 4IR World.

Currently, 17% of HEIs respond that faculty staffing constraints are negatively impacting their ability to provide quality education for students – and this number will only increase as we move into a more hybrid, digitised era of higher education.

We have already seen how the 2020 shift from in-person to virtual and hybrid learning generated high levels of 'technostress' amongst lecturers. Govender and Mpungose's[1] 2022 study outlines that lecturers can experience institutional technostress, when there is a misalignment between the lecturer's own capacity to utilise technology in their teaching and the policies and demands of the institution; social technostress, when lecturers experience social pressure to adopt and utilise socially acceptable and trending modes of technology in their teaching; and technological resources technostress, when lecturers feel forced to make use of technology that they are ill-equipped to deploy successfully in the learning experience of students. We cannot expect lecturers to excel in their role and deliver quality learning programmes if they are forced into modes of learning delivery that they are not comfortable using, without fair remuneration for their efforts.

1 Reginald Govender & Cedric Mpungose (2022) Lecturers' technostress at a South African university in the context of coronavirus (COVID-19), Cogent Education, 9:1, DOI: 10.1080/2331186X.2022.2125205

Load shedding...our new norm

In addition to the staffing constraints experienced by HEIs, 43% of respondents indicated that infrastructural challenges at their university negatively impact both the access to, and quality of, learning at their institution. This extends from insufficient student residences, to a lack of facilities (laboratories, libraries etc). As an illustrative example, one respondent raised the need to build science laboratories where the 'real world' is replicated in an environment for undergraduate students to understand the true research component of their discipline.

In the 2023/24-2025/26 Medium Term Expenditure Framework (MTEF), the Department of Higher Education and Training has allocated R8,662bn to infrastructure projects, which includes the establishment of two new universities. While not an insignificant amount, considering the complete 'reimagining' that is required of university infrastructure to better embed the universities in their local communities, while delivering innovative and fit-for-purpose learning programmes (Nel, 2020), HEIs will need to be creative in the way that they approach funding new infrastructure developments.

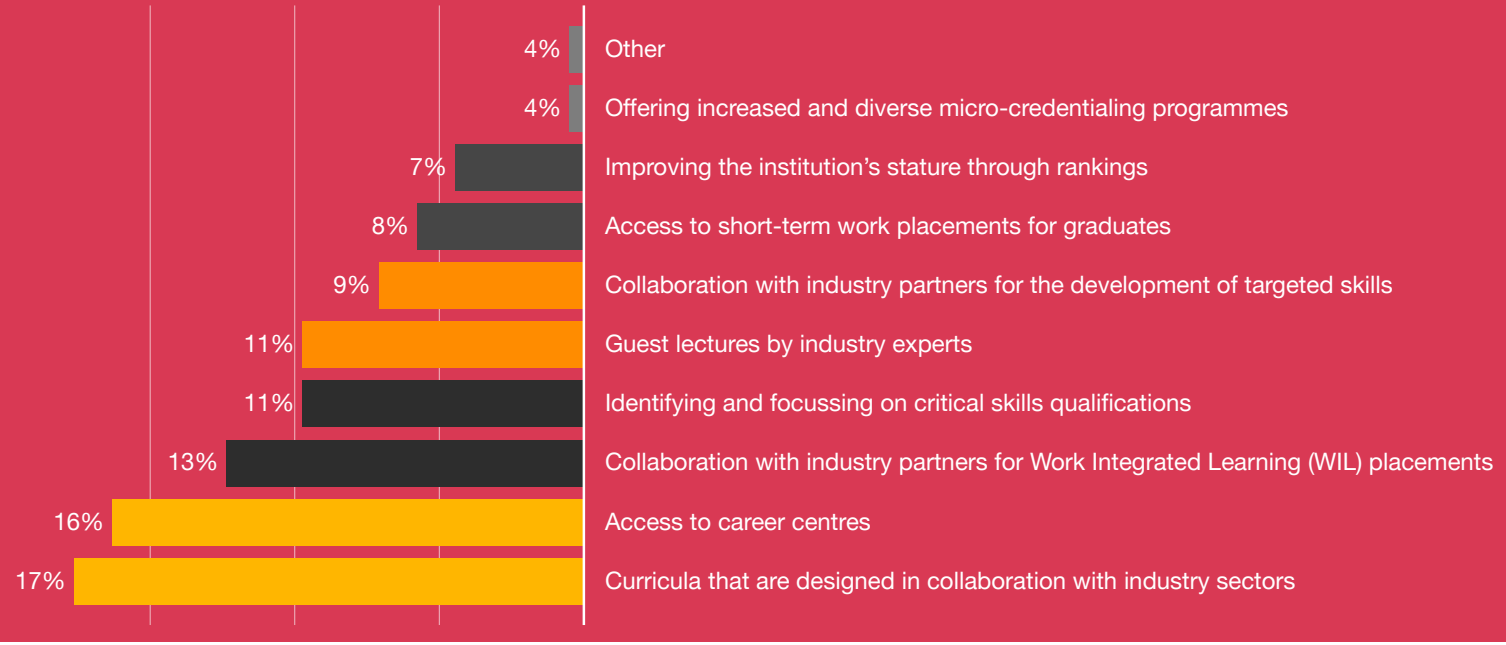
Unfortunately, spending on infrastructure is further complicated by the impact of load-shedding[2]. 43% of HEIs are exploring investment in sustainable energy solutions, including solar, in an effort to decrease the long-term expense of diesel. Some HEIs are spending in excess of R 2-3m monthly to run diesel generators during load-shedding[2]. It is difficult to plan and allocate resources for infrastructure development in this context.

Interestingly, 17% of HEIs are taking a different approach to dealing with load-shedding and are flexing the academic timetable to accommodate load-shedding schedules. This kind of agility is going to become the norm in our increasingly unpredictable circumstances.

2 https://businesstech.co.za/news/energy/672915/load-shedding-is-costing-south-africas-universities-millions-this-is-how-much-they-spend-every-day/

Enhancing employability: Strategic initiatives by higher education institutions

University Initiatives to Enhance Graduate Employability



The final element that this survey considered in terms of access and quality of education offered at HEIs was that of students' marketability post graduation. We again considered the HEI in the broader societal ecosystem in which it is positioned, and asked how HEIs are preparing their students with future-fit employability skills and dispositions. Unsurprisingly, we see an emphasis on engaging with industry to inform both the formal curriculum and co-curricula experience of students with 30% of HEIs prioritising industry engagement in their efforts to build their students' employability.

However, this percentage could be higher given the value that industry partnerships have to institutions, lecturers and students. 52% of respondents predict that in future, industry-led curriculum design will be required to deliver curricula that match the rapid pace of change in the world. Recurriculation was explicitly mentioned by three HEIs who are partnering with industry experts and industry/professional bodies to build more relevant learning experiences for students that maximise their exposure to emerging industry challenges. Globally, we're seeing a shift towards curricula that includes assessment not only of technical knowledge, but also industry – or sector-based competencies, as well as 'soft skills'.

13% of HEIs are prioritising engagements with industry to secure Work Integrated Learning (WIL) placements for their students. The approach of Central University of Technology (CUT) to managing WIL offers a good example of how a tech-enabled approach can ease the administrative burden on HEIs. CUT is using a cloud-based platform to monitor WIL placements, inform resource allocation to support the placements, and facilitate communication with its industry placement partners[3]. Using technology in this way enables administrators and lecturers to focus on the student experience of WIL, and to better leverage the workplace experience in the classroom.

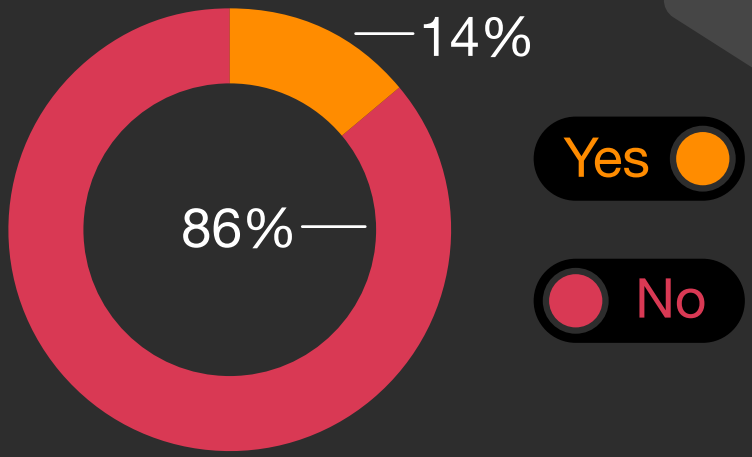
While 16% of HEIs still see career centres as the key enabler of student employability, we are seeing a shift towards a more integrative model of industry engagement where students have meaningful touchpoints with industry throughout their academic career, and not just at the end of it. 11% of HEIs are currently bringing in industry-based guest lecturers, and with the shifts in future-fit qualifications, we anticipate that the presence of industry leaders on university campuses is only going to increase in the next few years. A further 20% of HEIs consider targeted, critical skills, in the development of their curriculum; illustrating that the commitment to student marketability goes beyond the traditional career fair.

3 https://www.universityworldnews.com/post.php?story=20220323192154257

Funding: A scarce resource?

The overwhelming sentiment amongst respondents (86%) is that government is not doing enough to revise the grant funding policies for universities and TVETs to promote access and quality. 14%, all of whom are public universities, believe that it is, but that improvements are needed.

Do you believe the government is doing enough to revise the grant funding policies for universities and colleges to promote increased access and quality?



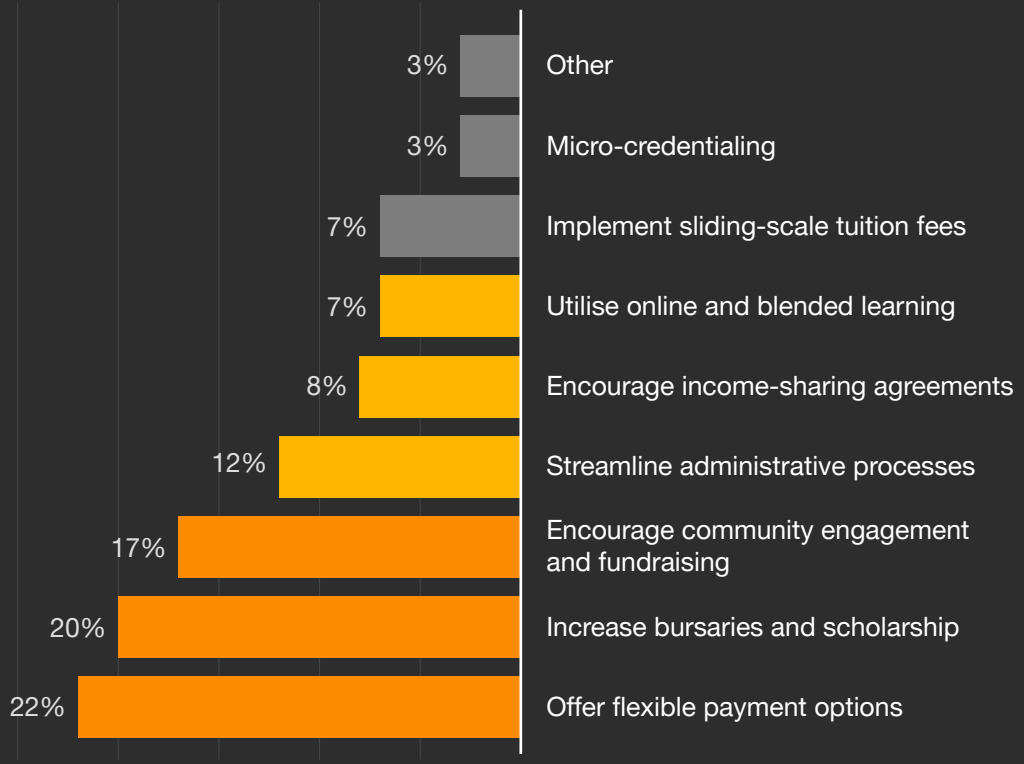
And while private institutions are not funded by the government, one suggested that student funding be such that qualifying students choose where to study rather than being limited to public institutions.

Funding challenges remain one of the hottest issues facing the sector and student funding issues are top of mind when higher education leaders respond to questions on this matter.

The impact of, and response to, funding constraints

Constrained funding means that budget lines are impacted. According to respondents, the top three most hit were the funds available for student funding, research opportunities, and payroll as institutions implemented hiring freezes. We've interpreted student funding in this context to refer to government funding (i.e. NSFAS) – recent changes to the NSFAS funding policy resulted in limitations on funding for student accommodation and stricter rules for students who fail. In response to this, higher education institutions have made greater levels of funding available for students, and this is one of the top three strategies for public and private institutions alike.

Other strategies include offering flexible payment plans and fundraising.



While institutions have diverse views on what needs to be done at a national level to increase financial aid for higher education students, 30% of respondents believe that public-private partnerships are a possible solution.

Respondents made a call for greater levels of funding at the postgraduate level, missing middle and STEM fields of study. Further policy changes suggested greater levels of autonomy for income generation activities, changes to policies regarding short courses, joint international accreditation and required contact time, as well as funding for private institutions.

The question arises as to whether government policies are inhibiting innovation that could solve for access and quality. Many of the suggestions from respondents do not require more funding, but a change in the rules that allows for more flexibility.

Public universities have organised themselves under Universities South Africa (USAf) as their primary lobby forum for change. Private institutions on the other hand appear to lobby on their own, joining panels and debates where they are able to. At least one private institution reflected on its student successes achieved to date and the bigger role that it is able to play if given the opportunity to do so.

With a burgeoning youth population and a constrained public purse, innovative and alternative funding mechanisms, together with policy reform, are desperately needed.

Given the escalating student numbers and the mounting pressure on public higher education institutions to create more admission opportunities within an already stretched teaching environment, it is imperative for the government to confer full university status upon private higher education institutions. Such a measure holds the potential to substantially alleviate the existing accessibility barriers in higher education.

Generative AI: Friend or foe

Recent breakthroughs in generative AI (GenAI) and the emergence of models like ChatGPT and Bard have sparked a profound interest in the potential impact of artificial intelligence across various sectors. Among these, higher education stands to be significantly influenced, given its emphasis on research and the dissemination of knowledge and skills.

As these transformative changes sweep across industries, both enthusiasm and apprehension are palpable. In the realm of higher education, the sense of concern appears to be particularly pronounced. Educators and administrators are now faced with the challenge of swiftly adapting to a technology that can reshape research, writing, and various academic disciplines. Moreover, instances of students misusing ChatGPT further complicate their roles and responsibilities in the evolving educational landscape.

> ***It is only a threat to those who expect students to memorise and regurgitate the information that is already widely available. The role of the university is that which ChatGPT cannot currently do i.e. to help students untangle difficult concepts, make connections between theories, applications and practices and most importantly to engage and inspire the students.***
>
> *– respondent to 2023 PwC Higher Education Leaders Survey*

Navigating the challenges

Our survey highlights the challenges faced by higher education institutions in harnessing the potential of GenAI.

Globally, higher education institutions have had to face the reality that artificial intelligence is here to stay and will make permanent inroads into students' lives and penetrate the corridors of academic research. Locally, respondents to our survey agree, with 90% of them viewing AI as an opportunity.

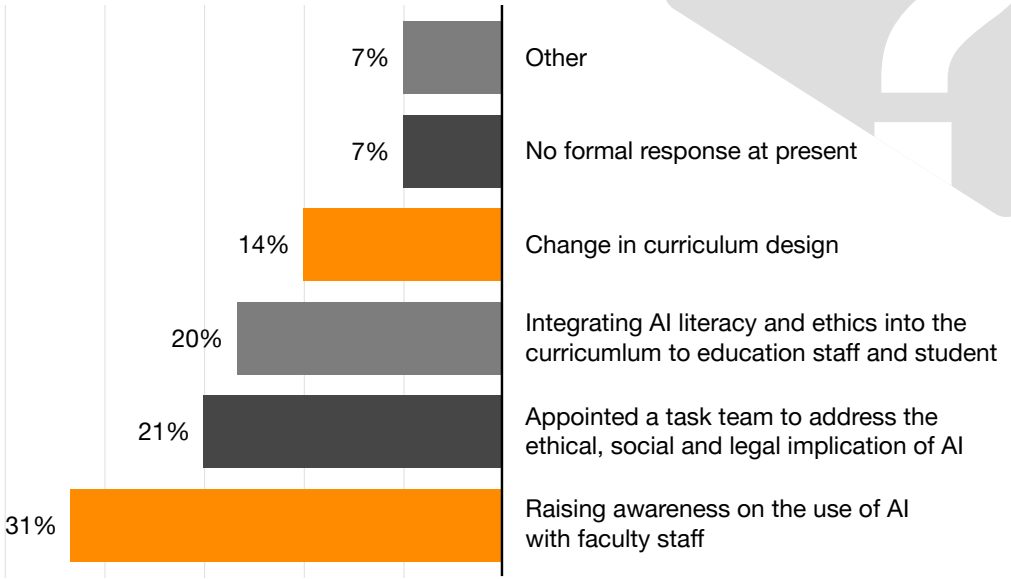
> ***While Generative AI has disrupted the education environment, it creates new opportunities for alternative assessments, feedback, and student support.***
>
> *– respondent to 2023 PwC Higher Education Leaders Survey*

Higher education institutions have thus far been slow to adopt AI policies compared to other industries, even as the adoption of AI in higher education is poised to experience significant growth. While 19% of respondents have issued guidance with respect to AI, none had yet adopted formal policies. 29% indicate that they were currently composing policies to address the way in which this technology should be used and leveraged. For example: the University of Cape Town (UCT) has taken a proactive approach to address the opportunities and risks associated with this cutting-edge technology.

UCT's strategic vision highlights the importance of harnessing AI's capabilities while also managing the potential challenges it may bring. To equip both staff and students with the necessary knowledge and understanding of GenAI, UCT has developed a comprehensive series of AI resource guides. These guides serve as valuable references, providing insights into AI applications, ethical considerations, and best practices (Swingler, 2023).

To date, institutions have focused on raising awareness (25%), changing their assessment design (21%) and appointing task teams to address the ethical, social and legal implications of AI (15%). Recognising the growing significance of AI across various sectors, the University of Johannesburg (UJ) has introduced a compulsory course on AI for all students in response to the needs that universities must focus on emerging requirements of governments, businesses and society, which increasingly necessitates knowledge of AI (University of Johannesburg, 2021).

What has been your institution's response in mitigating the challenges and risks posed by generative AI?



The emergence of GenAI has brought about notable changes in the assessment processes of assignments, examinations, and postgraduate theses documents within higher education institutions.

According to our survey responses, most institutions are still in the throes of assessing their approach to the way in which assignments, exams and post graduate theses are assessed. Many are turning to software as part of their strategies, while others are still exploring different approaches. Emphasis to date has been on greater levels of scrutiny on postgraduate submissions.

While the use of advanced tools to identify potential abuse of GenAI is important, over-reliance on it is not advisable. Tools have their limitations and, currently, these tools only provide a probability that text may have been GenAI generated. It is not definitive. As the use of GenAI becomes as common as Google searches, the approach to curriculum design and assessment will need to be adapted to be relevant in a new world of teaching and learning.

In contrast, some survey respondents indicated a sense of confidence in dealing with the issue. According to one institution, faculties are actively examining the implications of AI and its impact on written assignments. They firmly believe that AI is not infallible in producing error-free academic work, and it remains relatively straightforward to identify AI-generated content, primarily due to missing or incorrect references. One respondent went as far as to say "Astute academics can easily spot the ChatGTP output."

It may be helpful, at this stage, to borrow a quote from an article by Owen Kichizo Terry, "I'm a Student. You Have No Idea How Much We're Using ChatGPT":

> ***Many assume that if an essay is written with the help of ChatGPT, there will be some sort of evidence — it will have a distinctive "voice," it won't make very complex arguments, or it will be written in a way that AI-detection programs will pick up on. Those are dangerous misconceptions. In reality, it's very easy to use AI to do the lion's share of the thinking while still submitting work that looks like your own. Once that becomes clear, it follows that massive structural change will be needed if our colleges are going to keep training students to think critically.***

The University of the Witwatersrand engaged in three institutional developments in 2022 that will assist it to engage constructively with the advent of AI software in its academic programmes. The university has come up with three overarching policy frameworks to guide academic integrity:

1. **Wits Student Academic Misconduct Policy:** The purpose of this policy is to ensure that all students are informed and aware of the risks and consequences of academic misconduct, with the intention to completely avoid the behaviour.
2. **Wits framework for academic integrity:** The comprehensive policy highlights the paramount significance of academic integrity within higher education institutions, shedding light on various forms of unethical practices that students may engage in and uncovers the underlying motivation behind such behaviours.
3. **Senate Standing Orders on the Assessment of Student Learning (SSOASL):** Identifies the need for diverse forms of assessment, including more authentic assessments, encouraging students to draw from and reflect on their own experiences (Wits University CLTD, 2023).

Embracing AI: Institutional integration strategies

While navigating the risks associated with AI, institutions are planning to leverage its many benefits. With applications for student support and enabling learning to optimise back office processes, higher education institutions plan to leverage this technology in varied ways.

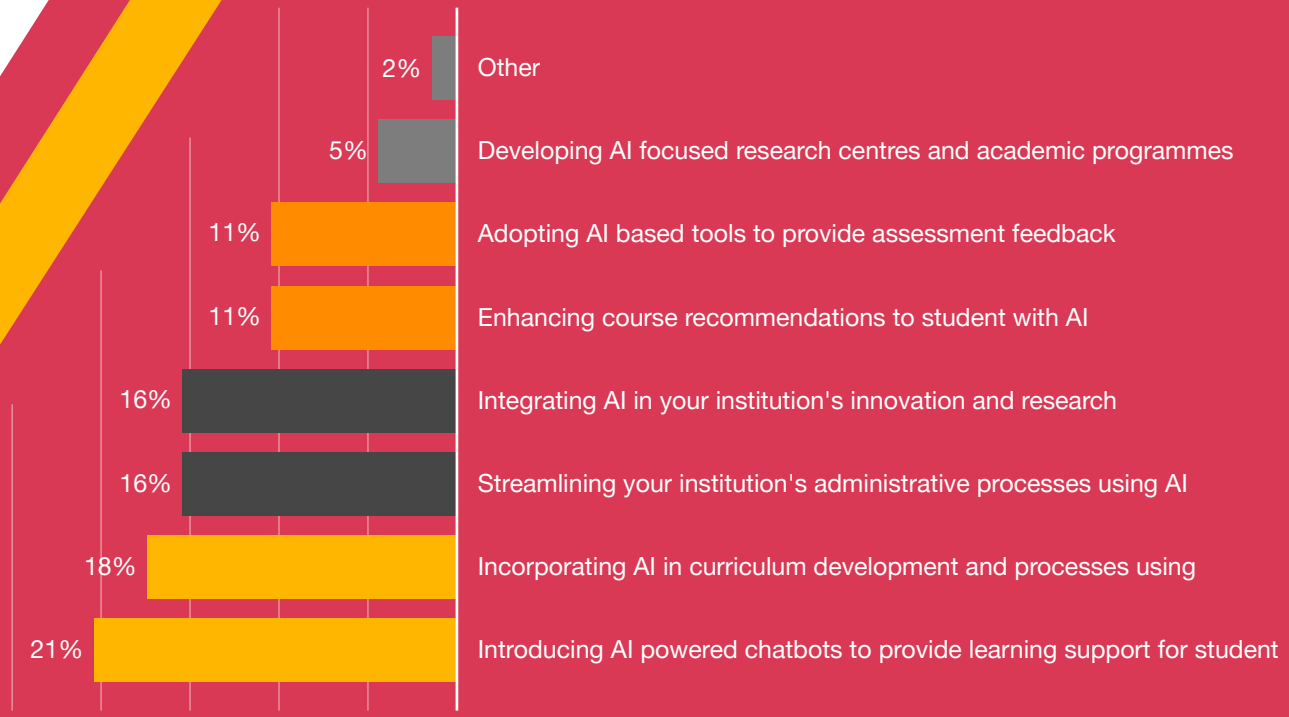
Diverse approaches emerge as HEIs ponder AI integration in their operations and IT infrastructure as 21% of the respondents stated that they are introducing AI powered chatbots to provide learning support for students, while 18% are incorporating AI in curriculum development and processes using AI.

16% of the respondents stated that they are harnessing AI capability to include it in their administrative processes with one respondent who has already embarked on the implementation of AI-driven chatbots to enhance various administrative functions and operational efficiencies (2023 Higher Education Leaders Survey).

An additional 16% stated that they are integrating AI into their institutions' research and innovation processes. By strategically employing AI's capabilities, institutions can heighten the quality of education, empower students and faculty, and foster an environment of innovation, ensuring that they remain at the vanguard of progress in the educational landscape.

HEIs should embrace GenAI to drive academic innovation and enhance teaching and learning experiences. By harnessing the transformative power of GenAI, HEIs can foster a synergistic approach that paves the way for the development of cutting-edge educational environments, specifically designed to cater to the unique needs of at-risk students. A prominent illustration of this transformative potential is exemplified by the University of Pretoria, which has harnessed the capabilities of GenAI in the form of real-time data analytics. Through this innovative use, it has crafted student success dashboards, acting as a dynamic tool that enables early alerts when students display signs of academic struggle. This proactive approach empowers the institution to provide timely and targeted support to students, thereby mitigating potential challenges and bolstering student success (University of Pretoria, 2022).

AI Integration for Enhancing Efficency, Learning Outcomes, and Student Experience



Higher education leaders recognise that GenAI is poised to transform roles and boost performance across functions in their institutions, help them navigate through a rapidly changing educational landscape and prepare students for the future world of work. As the potential of this transformative technology becomes clearer, institutions find themselves engaged in critical discussions that weigh the benefits and challenges posed by generative AI, such as ChatGPT.

Amidst these deliberations, some institutions have chosen to address the issue head-on by placing restrictions on the use of generative AI tools within their networks. Notably, the University of Sydney took a bold step in the 2023 academic year by returning to hand-written exams (Bongato, 2023). Such measures highlight the cautious approach some institutions are taking to navigate the AI landscape.

However, despite the challenges and apprehensions, a recent EDUCASE quick poll sheds light on a positive outlook towards generative AI. An overwhelming 54% of respondents expressed optimism or a higher degree of optimism concerning the technology, with only 12% indicating pessimism or strong reservations (Viano, 2023). This growing confidence in AI's potential has prompted a consortium of 24 Vice-Chancellors from the prestigious Russell Group Universities to take decisive action.

Within the context of an unequal society, AI has the potential to narrow the gap. The Khan Academy launched Khanmingo – an AI Guide that serves as a tutor for students and an assistant to teachers. As the sector explores different approaches to providing more personalised and engaging learning experiences, AI has the potential to play a pivotal role in enabling students to learn in their own time, at their own pace, and explore different explanations of concepts, and all this, possibly, in their own language.

Scholars in the academic sphere posit that AI tools, as currently implemented, foster narrowly defined learning objectives. To ensure that the full potential of AI in higher education is realised, it is imperative to shape AI policies to encourage students to pursue education with a broad perspective rather than narrowly focussing on specific areas of knowledge.

The optimisation of AI should prioritise the cultivation of skills acquisition rather than solely aiming for improved grades. In doing so, AI can serve as a catalyst for nurturing critical thinking abilities and stimulate creativity among students, thereby empowering students to become well-rounded individuals capable of independent thought, instead of becoming AI prompt experts.

In July 2023 The Russell Group unveiled a comprehensive set of principles aimed at promoting AI literacy among students and staff. Developed collaboratively with educational and AI experts, these principles form a strategic

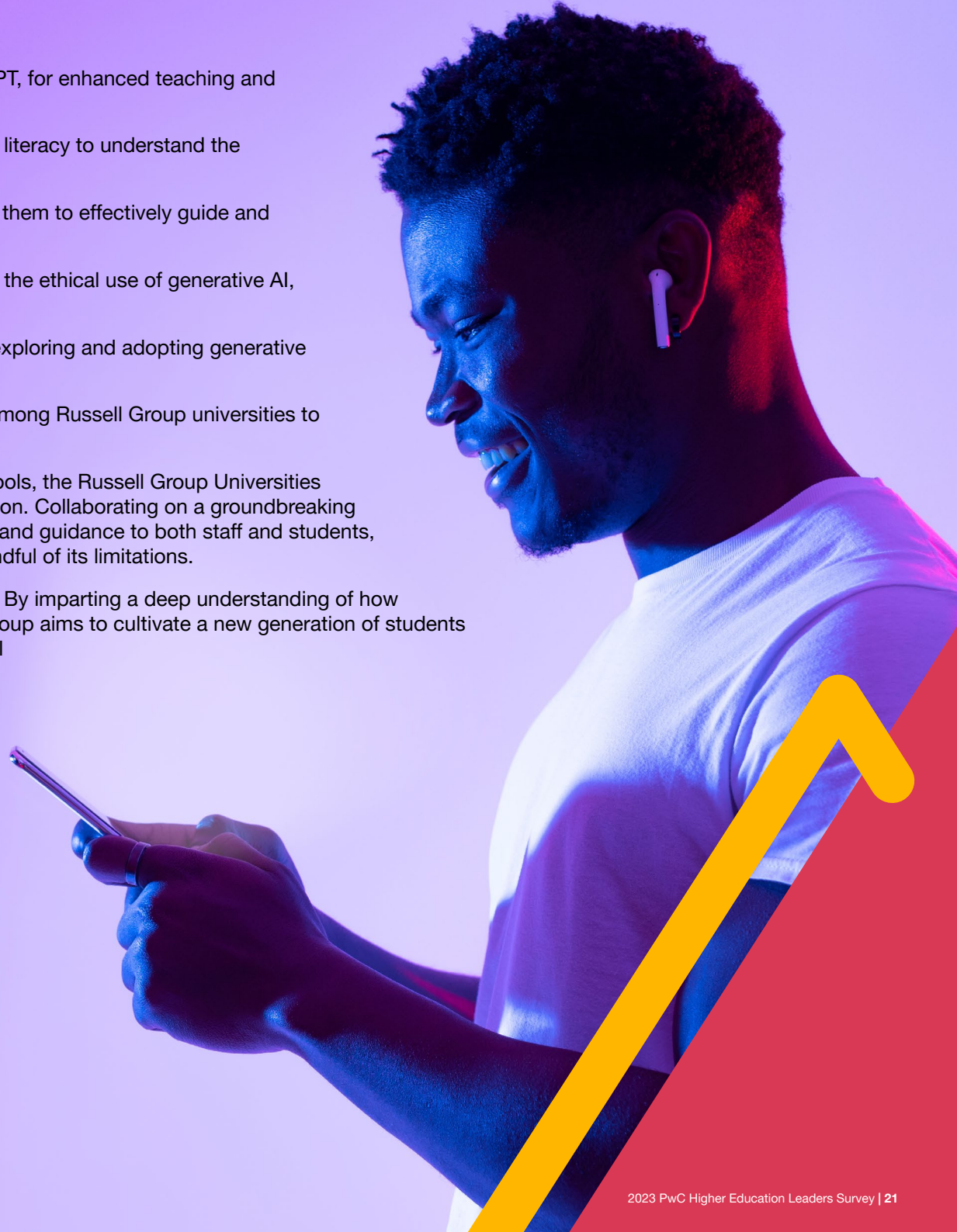
framework to harness the potential of generative AI, including tools like ChatGPT, for enhanced teaching and learning. The five key principles are as follows:

- AI Literacy Support: Prioritise supporting students and staff in developing AI literacy to understand the applications and implications of AI technologies.
- Faculty Training: Provide comprehensive training to staff members, enabling them to effectively guide and assist students in utilising generative AI tools responsibly.
- Ethical Integration: Adapt teaching and assessment practices to incorporate the ethical use of generative AI, ensuring equitable access to these technologies for all students.
- Academic Rigour and Integrity: Uphold academic rigour and integrity while exploring and adopting generative AI technologies.
- Collaborative Sharing: Foster a collaborative culture of knowledge-sharing among Russell Group universities to become trailblazers in AI education.

In a concerted effort to embrace the transformative potential of generative AI tools, the Russell Group Universities have joined forces to pave the way for a new era of AI literacy in higher education. Collaborating on a groundbreaking initiative, these institutions are committed to providing comprehensive training and guidance to both staff and students, empowering them to harness the full potential of AI technology while being mindful of its limitations.

At the core of this initiative lies the vision of personalised learning experiences. By imparting a deep understanding of how generative AI tools operate and add value to academic pursuits, the Russell Group aims to cultivate a new generation of students equipped with critical skills to navigate these tools throughout their educational journey and future careers. Simultaneously, faculty members will be armed with the necessary knowledge and expertise to leverage AI to support student learning and adapt their teaching pedagogies to meet the evolving needs of the modern learner (Russell Group, 2021).

Deakin University in Australia has partnered with IBM to become the first university to implement Watson. Watson is a supercomputer developed by IBM that combines AI and sophisticated analytical software to answer users' questions. The university aims to create a 24/7 online student advisory service that will improve the student experience. Integrated with therein single interface platform and online personal hub, DeakinSync enables students to ask questions and receive instant online answers (Alam & Kendall, 2023)



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Contacts

Roshan Ramdhany

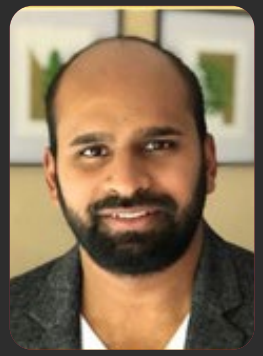
Education Industry Leader

roshan.ramdhany@pwc.com

Thaaniya Isaacs

Education Consulting Lead

thaaniya.isaacs@pwc.com



Dr. Kenneth Manuel

Senior Manager (Curriculum Specialist)

kenneth.manuel@pwc.com

Anisha Vittee

Senior Manager (People and Organisation – Workforce of the Future Specialist)

anisha.vittee@pwc.com

Jen Van Heerden

Manager (People and Organisation)

jen.van.heerden@pwc.com

Quintin Hawes

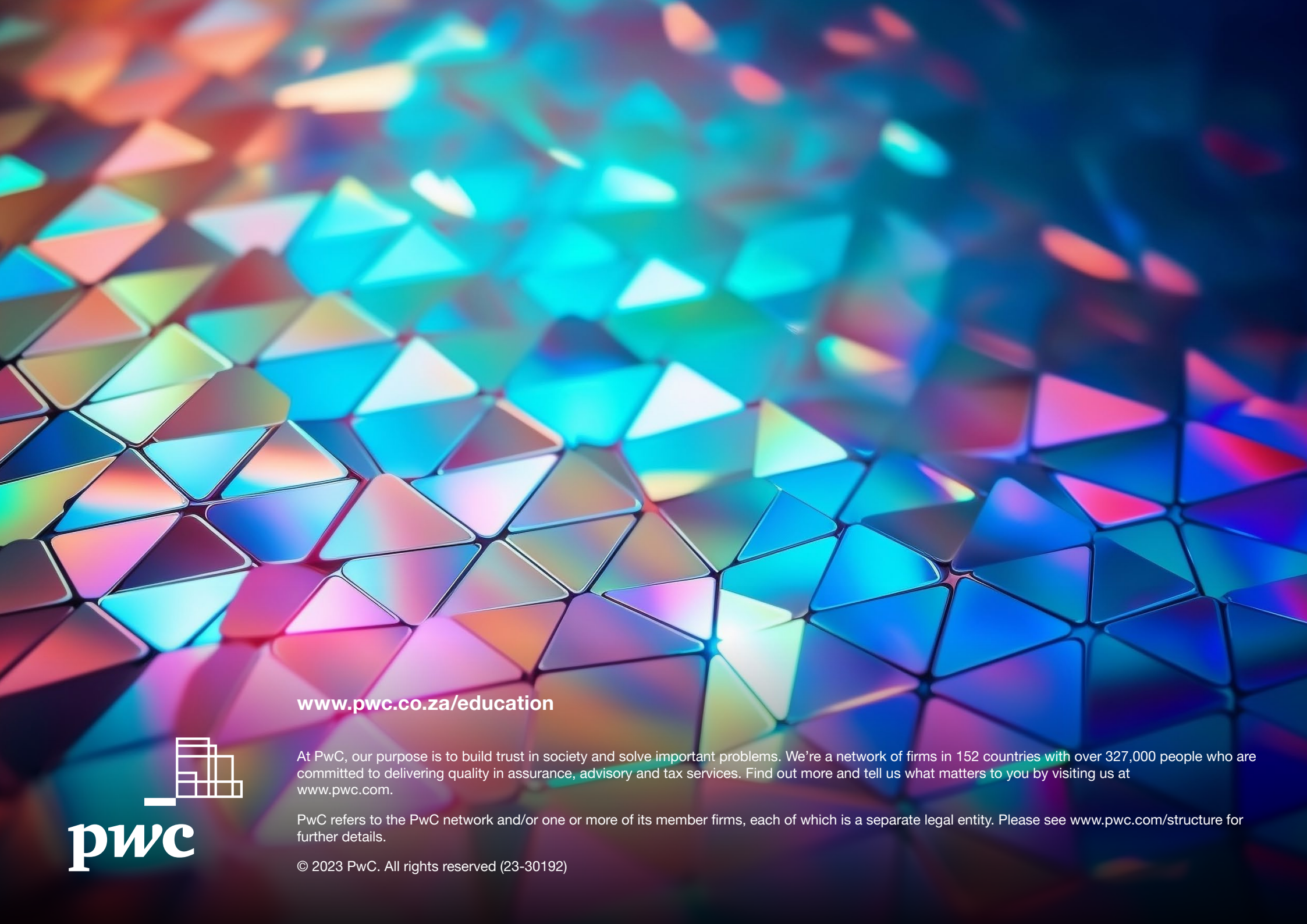
Senior Manager (Education EdTech Specialist)

quintin.hawes@pwc.com

Orapeleng Moremongwe

Senior Manager (Business Development Specialist)

orapeleng.moremongwe@pwc.com



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