

Mega-universities and opening education by design



Editor
Mark Nichols

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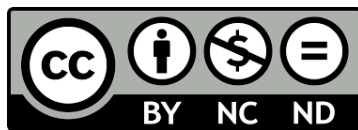
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Digital Master finalised in Raumati South, Paraparaumu,
New Zealand in August 2025.

Attribution should include the following information for the full book:
Nichols, M. (Ed.) (2025). *Mega-universities and opening education by design*. ICDE.

ISBN (Paperback): 978-82-93172-60-4

ISBN (Hardback): 978-82-93172-61-1

ISBN (Kindle): 978-82-93172-62-8

ISBN (PDF): 978-82-93172-63-5

Published by:

International Council for Open and Distance Education (ICDE)

Karl Johans gate 5

0154 Oslo, Norway

Web: <https://www.icde.org/>

A PDF version of this book is available through ICDE's knowledge centre at <https://icde.org/>

Print and Kindle versions are available from Amazon. Note that some page numbers will differ across these formats.

Cover credit: Kirsten Bolton

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Foreword

Sir John Daniel



I am flattered that Mark Nichols has assembled this distinguished group of scholars to revisit, after 30 years, my 1996 book, *Mega-universities and knowledge media: technology strategies for higher education* (Daniel, 1996). It began as a master's thesis, the final step in a degree programme at Sir George Williams and Concordia universities in Montreal that took me 25 years to complete. I am committed to lifelong learning!

After earning a doctorate in nuclear metallurgy from the University of Paris in 1969, I was appointed assistant professor of Metallurgical Engineering at the University of Montreal's École Polytechnique ('Poly'). Eager to become a competent academic, I assumed I needed some training in education. Most local opportunities for this were full-time programmes for would-be schoolteachers, but an exception was a master's in educational technology at Sir George Williams University that could be pursued part-time. Before I realised that my new Poly colleagues would think me perverse to take education courses, I had enrolled.

For full-time students, the Master of Arts (Education Technology) was a two-year programme that included both a research thesis and a three-month internship. For the coursework, I joined the thousands of part-time students who came through the doors of Sir George at six in the evening after a day's work. These courses made my teaching at Poly more systematic, but the internship changed my life.

1971 brought news reports of a revolutionary British higher education initiative called the Open University (OUUK), which used technology to reach large numbers of students at home and called itself 'open' because it had eliminated all academic entry requirements. It seemed the perfect place for my internship. The OUUK offered to take me on for three months as a visiting lecturer (unpaid) and Poly generously allowed me to spend the summer working at the OUUK headquarters in Milton Keynes.

That experience transformed my career. The OUUK was a revelation in every way. First, the scale: 40,000 students in only its second year of operation. Second, the enthusiasm of the students: mostly working adults who had long wished to earn a degree. Third, the idealism of the staff and their commitment to the mission of openness. Fourth, the use of multiple technologies: print, TV, radio, and computing to create a multi-media distance teaching system. And fifth, tying this all together, a national network of

hundreds of tutorial staff meeting learners for optional tutorials in study centres all over the country. I returned to Montreal, in the words of T. S. Eliot, ‘no longer at ease here in the old dispensation.’¹ I had seen the future of higher education. I wanted to be part of it.

I was lucky. The next month the Université du Québec (UQ) advertised the post of Director-General of its new Télé-Université (TÉLUQ). As this was clearly Quebec’s answer to the OUUK, I applied. Most institutions would have binned this pretentious application from a junior academic and recent immigrant. Instead, I was invited to Quebec City, where I met the founding president of the UQ, Alphonse Riverin, and his team. To my relief, they told me they were not going to hire me as Director-General. However, since they could not find anyone else who had worked at the Open University, would I join TÉLUQ and set up an Educational Technology unit?

I moved to Quebec City and spent four thrilling years at TÉLUQ. Without fully realising it, this was the moment that I left a conventional academic career track and went (in the words of Matthew Arnold’s poem, *The scholar gypsy*), to learn the ‘gypsy lore’ and ‘roam with the wild brotherhood’ of distance education (Daniel, 2024).

By the mid-1970s, Athabasca University (AU) was emerging as a distance teaching university in Alberta, and TÉLUQ naturally made contact with it. AU colleagues encouraged me to apply for the new post of Vice-President Learning Services, and I moved there in 1978. AU had originally been conceived as an overspill campus for the University of Alberta, but when enrolment growth flattened in the 1970s, it was converted into a pilot project to test the concept of an open, distance university. An early course, *Ancient Roots of the Modern World*, had such demanding essay requirements that some claimed it merited a doctorate!

By 1978, AU was still hesitantly reviewing its curriculum and teaching/ learning system, proposing revisions whenever the academic council met. I argued that reasonable solutions, implemented effectively, would serve the students better than an endless quest for the perfect programme. Somewhat relieved, colleagues buckled down and AU began a period of steady growth. So absorbed was I in its development that, at this point, I dropped out of the Sir George Master of Arts (Education Technology) programme without completing the thesis requirement.

Through the 1980s, I served as Vice-Rector of Concordia University and then as president of Laurentian University, a dual-mode institution serving the vast territory of northern Ontario. My involvement in distance education continued as programme chair for the 1982 Vancouver conference of the International Council for Distance Education (ICDE) and then as ICDE president from 1982 to 1985. The OUUK was still my lodestar,

¹ <https://poetryarchive.org/poem/journey-magi/> (accessed 4 August 2025).

and when the post of vice-chancellor became vacant, I applied and had the immense privilege of leading it from 1990 to 2001.

Since joining TÉLUQ I had enrolled as a student in distance courses at the universities where I worked. As well as providing intellectual stimulation, it was an opportunity to assess the quality of the institution's teaching and student support. Soon after moving to the OUUK, I completed a Diploma in Theology that I had begun in Canada, and I thought of embarking on a law degree.

My long-suffering spouse suggested that I might do better to complete the Master of Arts (Education Technology), which I had abandoned on moving to Alberta. By then Sir George Williams University had merged into Concordia University, which showed admirable flexibility by re-admitting me to the programme. The OUUK gave me a month's study leave, and I spent a month in Montreal writing the thesis.

Two topics attracted me.

First, various jurisdictions across the world, inspired by the OUUK's development of multi-media distance higher education at scale, had created similar institutions after 1970. One of these countries was China. Wang Qiming reports in this book that in October 1977, former British Prime Minister Edward Heath visited China and introduced the OUUK's approach of providing large-scale education to Chinese Vice-Premier Deng Xiaoping. Deng was impressed by the open university approach and approved the establishment of the China Central Radio and TV University in 1978. It later evolved into the Open University of China, which now has 4.57 million students in its academic programmes.

OUUK academics such as Tony Bates, Greville Rumble and David Sewart documented these developments, putting the OUUK at the centre of these initiatives. I coined for them the term 'mega-university,' defining it as 'a distance-teaching institution with over 100,000 active students in degree-level courses' (Daniel, 1996, p. 29). Eleven universities met this criterion in 1995, and describing and comparing them seemed like a useful task. Today, many more are included among some 50 institutions in the *Handbook of open universities around the world* (Mishra & Panda, 2025).

The second topic that caught my attention was the OUUK addressing the challenge of adapting to the online world. Having 5,000 of its students connected online in 1995 was a baby step, but this figure grew to 17,000 in 1996 and passed 110,000 by the end of the century. How should the mega-universities incorporate this new medium into their operations? The ambitious claims for online learning made this a pressing question. Marc Eisenstadt (1995) had invented the term 'knowledge media' for the convergence of computing, telecommunications and the learning sciences. He and others argued that the knowledge media would radically change the relationship between people and knowledge.

These two topics provided the title for my thesis and its expansion into the book *Mega-universities and knowledge media* (Daniel, 1996). After revisiting it 30 years later and reading the diverse contributions to the present volume, I shall touch on three themes in this foreword.

What is the impact of mega-universities on campus universities?

The OUUK's founding vice-chancellor, Walter Perry, said that his motivation for taking the job was *not* a special commitment to adult students. As a senior academic at the University of Edinburgh, he had observed that the quality of teaching on university campuses was lamentable. For him, the OUUK was an opportunity to do better by designing courses in multi-disciplinary teams and investing in high-quality teaching materials. He hoped that this example of quality would encourage other universities to raise their game. In the event, the main mechanisms for such technology transfer were the thousands of part-time tutors that the OUUK hired in other institutions, who then used the OUUK's materials in their own courses on campus. But, in terms of broadening university missions generally, the early impact was negligible. One wag observed that the effect of opening the Open University was to close the other universities even more firmly to part-time and mature students!

More opportunities became available to such students with the general expansion of higher education systems in the late 20th century, but these were mainly in campus-based programmes. Moreover, as opportunities for online learning expanded in the 2000s, they were usually exploited first by individual faculty enthusiasts, dubbed 'lone rangers' by Tony Bates, rather than as institutional policy.

This context makes Paul LeBlanc's engaging chapter, *From small residential to mega-university: the story of SNHU* (Southern New Hampshire University, chapter 3.1 of this volume) an important testimony. In the 20 years after 2003 SNHU, a not-for-profit institution, grew from a residential campus of 2,800 students into a mega-university enrolling more than 250,000 students around the United States and the world with impressive completion rates and satisfaction ratings. How did this happen?

For LeBlanc the launch pad was fidelity to SNHU's historic mission of serving working people who were poorly served elsewhere. These adults, many in their 30s in dead-end jobs, were not looking for a 'coming of age experience' as 'they already had all the coming of age they could handle' (p. 168); they were seeking very practical features. These included realistic completion times, convenience, low cost, and a credible credential. SNHU refined its response to each of these requirements, looking for what 'jobs' it could do for students to make their lives easier, such as obtaining transcripts directly from their previous institutions and paying the fee; reviewing credit transfer requests and prerequisites from the learners' perspectives; and shortening study terms from 14 to 8 weeks.

Luck also played a role. SNHU was expanding rapidly in the 2010s just as the for-profit higher education sector, which had been a darling of the stock market, began to face nationwide lawsuits for fraudulent practices and massive student dissatisfaction. The closure of Corinthian Colleges in 2014 and the settlement of multi-million-dollar lawsuits by Trump University in 2016 took the shine off for-profit higher education, positioning SNHU well for the boom in interest in online learning created by the Covid-19 pandemic.

As SNHU expanded its online programmes it took some cues from the OUUK, centralising course production in teams and using part-time tutors to support these standard offerings instead of having each tutor invent their own version of the course. It also copied an early feature of the OUUK, assigning an academic advisor to each student for the entirety of their time at the university. As LeBlanc writes, academic advisors

...are, in reality, life coaches, often playing the role of cheerleaders, task masters, and even friends. Quite often, the real challenge our nontraditional learners face are those of self-confidence and isolation... Our academic advisors make students feel they matter, and that makes all the difference. In some communities, our graduation rates are four to five times higher than other providers *serving the very same student*. (p. 171, emphasis original).

A vital question is whether mega-universities can use technology to supply some of this coaching and reassurance. Bozkurt (chapter 1.2 of this volume) is definite that it can. Anadolu University's response to the Covid-19 pandemic showed that the combination of economies of scale and a commitment to openness can 'bridge not only geographical distances but also transactional and psychological gaps in the learning process' (p. 28), and that:

Openness during the pandemic was not merely about content access but about the emergence of a collective consciousness and communal response to crisis... [there was] a shift toward openness as *praxis*, emphasising empathy, collaboration, and shared humanity, in turn positioning open universities as central to educational resilience and transformation (p. 31, emphasis original).

The account of SNHU's development also highlights the advantage the earlier mega-universities had in being created from scratch, rather than by transforming existing institutions. To grow SNHU, LeBlanc found that he had to put the 'mega-university' team in a building away from the campus to minimise contact (infection) between the regular faculty and the new project. The two main drivers of SNHU's remarkable growth were dedication to the university's original mission of 'serving working people' and hiring new staff with the skills needed to take SNHU to scale.

His approach was vindicated when the Covid-19 pandemic struck in 2020, and the world went online. SNHU enrolled 45,000 new students and appointed 1,600 new full-time staff to cope. The systems held, and SNHU continued to eschew the usual symbols of institutional success, for example chasing rankings, putting up status buildings, investing

in research and pursuing ‘some perceived ‘better’ student type.’ According to LeBlanc, and I quote here from the same page with original emphasis, ‘*Our goal was always to do better work for more students,*’ ‘we out execute most of the competition on most fronts on most days,’ and ‘Scale was the result, not the driver’ (p. 176).

Artificial Intelligence is the answer: what is the question?

Chapter 1.3 by Makoe and Mphahlele, *Technology access and possibilities*, which focuses on Africa, explores the challenge posed by inequality of access to digital media. They observe that the problem of digital inequality does not end after physical access has been attained; instead, equality ‘actually starts when the use of digital media is incorporated into daily life’ (p. 44, citing Van Dijke & Hacker, 2003). Other authors concur that the incorporation of Generative Artificial Intelligence (GenAI) is a major task for higher education, and a particular challenge and opportunity for mega-universities. Wang Qiming, for example, stresses the central role of digitisation in the future development of the Open University of China (chapter 3.2). Eisenstadt’s forecast that ‘the knowledge media would change the relationship between people and knowledge in a qualitative manner’ today applies with even greater force to GenAI (Eisenstadt, 1995).

I wrote *Mega-universities and knowledge media* in 1995 at a time when the OUUK, seeing the potential of online learning, was beginning to adapt its operations to this new reality. Thirty years later, the situation with GenAI is similar. Most of this book’s authors put more stress on GenAI’s future potential for the mega-universities than on its current applications, although some are mentioned. Paul (Chapter 2.3) points out that GenAI ‘not only offer innovative approaches to teaching and learning, but, because they readily facilitate accessibility of knowledge, they shift the emphasis in teaching and learning to future skill development’ (p. 119). Murgatroyd focuses on the impact of GenAI on the assessment of learning, because students now have much more effective and largely undetectable tools to cheat. He observes that ‘Universities are realising that they have to reimagine teaching, learning, and assessment in an age of GenAI rather than seeking to maintain what are increasingly ineffective ways of educating students’ (p. 135).

Naidu (in Chapter 1.1) expands this idea to feedback generally, writing that GenAI

...has the potential to overcome many of the challenges faced in the provision of effective and engaging feedback to learners... The more choices learners have in relation to their access to feedback on their learning and assessment activities, including personalisation of that feedback, the more inviting and motivating their learning experience becomes (p. 19).

Belawati (in Chapter 1.4), writing from the perspective of Indonesia, is more cautious. For her,

...there is very little evidence of benefits for almost all applications of GenAI in education at scale, and it is not known yet whether GenAI in education has a critical role or not... Experts emphasise that while AI has transformative potential, its integration into open education must be grounded in rigorous research and ethical considerations (p. 63).

In placing the incorporation of GenAI in the wider context of the development of mega-universities, Olcott (chapter 2.2) emphasises that GenAI has a natural fit with Open Education Resources, Open Education Practices, and micro-credentials, all of which give them the opportunity for strategic reset. Mir et. al. (chapter 1.5) state that the integration of GenAI technologies into learning environments is increasingly relevant for mega-universities seeking to balance quality with scalability.

In all this, however, ethical guidelines and frameworks for implementation are needed. A UNESCO (2023) study showed that, globally, less than 10% of institutions had any guidance for the use of Gen AI. This provides a challenging and exciting agenda for the mega-universities in the coming years.

Mega-universities: evolving economics

Distance education has been called an industrialised form of education (Peters, 2007). It brought to education the economic innovations of the industrial revolution, first analysed by the economist and moral philosopher Adam Smith in the 18th century. Three key innovations, which enabled the transition from cottage industries to production at scale, were division of labour, specialisation, and the use of machines. I explored their application to education in *Mega-schools, technology and teachers* (Daniel, 2010).

Competitive advantage, a central theme in *Mega-universities and knowledge media*, grows out of the value that an organisation creates for its buyers, either in terms of low prices or unique benefits. In 1995, economies of scale were the primary factor lowering the prices that mega-universities could charge. Exploring the unique benefits that online learning (the knowledge media) could offer was a key aim of the book. Today, the context in which we must assess them has evolved, not least as some mega-universities have become *giga*-universities with *millions* of students.

Mir et al. (chapter 1.5) report on the experience of successfully managing technical operations for over 600,000 students per semester at Allama Iqbal Open University (the AIOU) in Pakistan, by applying systematic approaches to infrastructure design, process automation, and capacity building.

The institutional economic structure of any mega-university depends on the context in which it operates. Very large mega-universities serving a national clientele, such as those in China, India, Pakistan, South Africa, and Türkiye, can fund their operations from fee

income, even when they set fees at a level low enough to attract their target audience of relatively disadvantaged learners. The experience of SNHU described in this volume is revealing. As its enrolments expanded during the 2010s it was able to keep tuition fees steady for ten years, although they were already low by US norms.

Assessing the cost-effectiveness of mega-universities gives different results depending on the output measured. Whether the measure is initial enrolment, passing a course, or completion of a whole programme, institutional cost-effectiveness will vary. Historically, distance education (and most part-time study) has been criticised for low completion rates. Part of the problem, however, was not that students were dilatory, but that individual courses were too long, or students did not need the whole programme.

Various recent developments address this issue. SNHU switched from fourteen-week terms to eight-week terms. Most mega-universities now offer short courses leading to micro-credentials that can be stacked into fuller programmes. Some offer MOOCs (Massive Open Online Courses) that offer little student support, and have dismal completion rates, but nevertheless have a useful role in the higher education ecosystem. I have taken 20 MOOCs myself and did not fret about not completing some of them. These developments show that mega-universities are becoming more alert to the needs of learners to respond more quickly to changes in patterns of employment. The Covid-19 pandemic gave extra impetus to this evolution (Daniel, 2020).

In 1995 we did not know how quickly OUUK students would equip themselves to study online, but we geared up to serve over 100,000 students in this way by the turn of the century. Today an important question is how soon GenAI will prove itself as an effective tool for teaching and learning, and what resources students and institutions will need to take advantage of it.

Conclusion

Finally, will GenAI help mega-universities become more open? I had originally intended to conclude this foreword by exploring how the ambition of openness in higher education has diversified and expanded in the half-century since the OUUK eliminated all academic conditions for entry and designed a distance teaching system to reach learners in remote lighthouses. Happily, Mark Nichols' chapter, *Mega-universities and strategically opening education* (chapter 2.5), delves comprehensively into this important question.

I still find the OUUK's mission 'to be open to people, places, methods and ideas'² refreshingly different, and much more motivating than the vacuous mission statements of most institutions. Can mega-universities continue to add new dimensions to the

² <https://about.open.ac.uk/policies-and-reports/mission> (accessed 4 August 2025).

notion of openness and bring higher education to all who might benefit from it without compromising the economies of scale that are their unique advantage? This book suggests how to design for that.

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Author profile

Sir John Daniel is a 50-year veteran of educational technology and distance learning. Born in the UK, he attended Christ's Hospital School and obtained a first in metallurgy at Oxford and a doctorate in Paris before an appointment at École Polytechnique, Montreal. Part-time study for a master's degree in educational technology led, in 1996, to his book, *Mega-universities and knowledge media: technology strategies for higher education*, which is the basis for the commentaries in this volume. Meanwhile, he held appointments at TÉLUQ (Quebec), Athabasca University (Alberta), Concordia University (Quebec), and Laurentian University (Ontario), before serving as vice-chancellor of the Open University (OUUK) from 1990-2001.

Sir John's later career included appointments as assistant director-general for education at UNESCO, Paris, and president of the Commonwealth of Learning, Vancouver. His 400+ publications also include *Mega-schools, technology and teachers: achieving education for all*, which explores the use of large-scale distance learning to expand schooling. Awards include 32 honorary doctorates from universities in 17 countries; the Chevalier/Officier de l'Ordre des Palmes Académiques (France); the Knight Bachelor (UK); and the Officer of the Order of Canada (Canada).

Sir John is also a lifelong member of the ICDE.

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Preface and acknowledgements

Mark Nichols

This book had its genesis at the 2023 ICDE Conference in Costa Rica. I was sitting in the plenary session listening to President Dr Wang Qiming of the Open University of China (OUC), as he spoke on the incredible scale and digital infrastructure serving over 4.5 million students per year. It seemed the OUC had been harnessing the waves of technology to power its growth into something much bigger and ambitious than anything I had thought possible. It was during this keynote that I was inspired to reconcile some things that had been niggling me for some time; now that all universities are ‘going online,’ what is the ongoing potential for open universities? I am grateful to President Wang Qiming, who has kindly authored a chapter in this work, for prompting what you are now reading.

Naturally, my wondering about the ongoing potential for open universities through technology returned me to the book *Mega-universities and knowledge media: technology strategies for higher education* (Daniel, 1996). The China TV University System (CTVU), once admired as ‘mega’ with more than one hundred thousand students, was now *multi-giga*. There are also many new entrants to the ‘mega-university’ list; you will see from the Appendix that at least 32 can now be identified, with four having more than a million enrolments each year.

The last 30 years have been incredible, to say the least. The operating model underpinning the open university movement, combined with 30 years of technology, has proven itself to be resilient and, in the words of the 2025 to 2028 ICDE strategy,³ to prove inclusive, scalable, and sustainable higher education is achievable. So, it seemed timely to direct a dedicated work on the *very* big providers of non-traditional education, as a way of revisiting Sir John’s influential book, to extend his thinking into the 21st Century.

So, what can we learn from this collection? You will find my overall thoughts in the concluding chapter. What I will say for now is, it is telling that not all modern mega-universities have their roots in open, flexible, and distance learning (OFDL). The chapter by Paul LeBlanc shows how *any* university can become ‘mega’ right from where it starts, with the right vision, dedication to change, and dogged pursuit of a learner- and learning-

³ <https://www.icde.org/wp-content/uploads/2024/09/Final-ICDE-Model-and-Strategic-Objectives.pdf> (accessed 4 August 2025). See later comment about my preferred inclusion of ‘available.’

friendly design. This should give all current open universities pause. Becoming ‘mega’ is not the sole privilege of those with a classic OFDL heritage.

A word, then, to the discerning reader. We are at the point now, in this very book, of repealing the notion that a mega-university must be a ‘grown up’ open university. Across the chapters of this book, you will still see evidence of ‘mega is large open’ thinking by some authors, mainly because for the broader OFDL community the truth that mega-university status can be gained by non-open universities is still sinking in. Universities *without* an OFDL history are following the breadcrumbs of accessibility, inclusivity, scalability, and sustainability into the same educational models open universities are evolving into, assisted by technology. I explore this more in the Appendix to this volume, and suggest the reader pick up on previous work pointing out that the classic distinction between ‘traditional’ (campus-based, in-person) and ‘non-traditional’ (open and distance) approaches to education is no longer viable (Nichols, 2024).

We are now in the brave new world of mega-opportunity for all universities. And that, *before* we consider what Generative Artificial Intelligence might bring.

The mega-universities described in this volume frequently play a major role of national provision of university education, but they are never the sole option for students. Each exists within a milieu of other universities, most regional and campus-based, others beginning to flex their technology-assisted pedagogies into models that bear close resemblance to OFDL. Some of the current mega-universities and giga-universities are similarly extending further into local campus presences, further mixing the drab colours of neat categories into a rich palette of higher education.

Thirty years on from *Mega-universities and knowledge media*, we are far from a bland convergence of educational practice. The challenge for all nations is to develop higher education access that is available, inclusive, scalable, and sustainable (I am assuming quality compliance in this formula). Between the covers of this volume, or the limits of its scrolling, you will find broad critique, insightful strategies, strong examples, and firm evidence that mega-universities deserve further study, nurture, and imitation.

...

This section must include acknowledgements, and so there are multiple people I need to thank. First, my dear colleague Professor Olaf Zawacki-Richter. Olaf was a valued co-editor of his work until he had to reluctantly withdraw; it is no exaggeration to say that the efforts he made at a critical time in the early days of this work made this book possible. My gratitude also goes to Sir John Daniel, who I first became aware of while studying with the Open University, United Kingdom (I was a student in the Master of Arts in Open and Distance Education in 2000). We did not meet until many years later at the Commonwealth of Learning, but over the last decade and a half I am pleased to have

benefitted from a generous correspondence and familiarity. This work is testament to the influence of his ideas and reputation.

When I shared the vision for this book, the right calibre of author responded. Their work is acknowledged here, and my gratitude will no doubt be mirrored by the reader. We are all indebted to the contributors of each chapter. Each of them included their contribution within busy schedules to pass on their wisdom, experience, and encouragement to all reading these words. I am very fortunate to have a large number of contacts in my virtual ‘Rolodex,’ as Sir John once put it. Hosting the *Leaders & Legends of Online Learning* podcast, and subsequent connections from the ICDE Board (now as President), gives me the privilege of connection.

You can learn more about each author in their profile, at the end of each chapter.

Some disclaimers:

- Any errors in this book are likely mine. Errors in referencing are *certainly* mine, and I trust the reader is not distracted by any that might still be present.
- Stylistic errors are also mine. I wrestle with edited books whose editors look to have done little more than sew together chapters of different shapes, styles, and substance in a patchwork jarring for the reader as they go from one chapter to the next. Much of my work in editing this book has been to ease the differences across each chapter such that the overall format and flow are at the least similar.
- This book is primarily designed to be *readable*. It may not be scholarly enough for some; but his book isn’t written primarily for the scholarly community. Instead, it’s written as an accessible reference for those with a genuine interest and curiosity in mega-universities and their capabilities and challenges.
- I mentioned earlier the idea that ‘mega-universities are grown-up open universities’ is still in place for many. Some chapters in this book will show this to some extent, mainly because most authors have an OFDL background. Rather than correct this thinking I have opted to take a gentle approach to give space for this connection to be broken, and give space for the truth of technology’s potential for *all* universities to become mega to sink in.

It gives me great pleasure to be able to launch this book at the 30th ICDE World Conference, co-hosted by *Te Kuratini Tūwhera* | Open Polytechnic and *Te Kunenga kī Pūrehuroa* | Massey University in *Whanganui-a-Tara* Wellington, at Tākina, in my home country of *Aotearoa* New Zealand. May this work, seeded from a remote corner of the world, inspire available, inclusive, scalable, and sustainable education around the globe.

Dr Mark Nichols

27 August 2025.

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Introduction

Mark Nichols



“Fundamental to this book is the conviction that the contemporary problems of higher education can be resolved should we design universities in ways that are available, inclusive, scalable, and sustainable. Within these covers you will see how and why mega-institutions are a vital part of the solution.”

The cover of this book tells an illustrative story.

A book *is* often judged by its cover, despite sagely advice. So, when I realised I needed a cover that could confidently portray the quality of the authors and ideas of this volume, there was a real sense of challenge. It would be disastrous for this book’s vital message and important insight as to the future of education be pre-judged as amateurish because of a garish cover.

So, I naturally turned to Generative Artificial Intelligence (GenAI). That is a sentence I would not have used even a year ago.

What surprised me was not only that I (or should I say, *AI*) got a viable cover; I was more surprised by how my initial request turned into the finished product. My initial request went like this:

Prepare an image of a mega-university, able to reach millions of students through technology. It should be clear from the image that the university is inclusive, scalable, and sustainable while also offering quality degrees. The university is illustrated such that it shows how education can be future-proofed.

I received the image to the right:

Figure Intro.1: Copilot output (see prompt above).



Not bad, perhaps, but also not what I had in mind. So, I revisited:

Try again, but with less emphasis on the campus and no words. Please provide only a picture. The image should also portray confidence in the mega-university approach.

It was at this stage I noted how Copilot had interpreted and extended my request:

I'll now generate an image using the graphic art tool with this prompt:

Prompt: “A futuristic digital abstract artwork representing a mega-university. The composition focuses on dynamic digital network lines, glowing geometric nodes, and mosaic-like data streams that convey inclusivity, scalability, sustainability, and confidence. It avoids typical campus imagery and contains no text, emphasizing a bold vision of future-proof education.”



*Figure Intro.2: Copilot output
(see prompt above).*

The Figure above was provided (sigh). So, I tried a new tack:

What other visual themes can represent a mega-university?

The response (I suggest you skim):

Here are several additional visual themes that could effectively represent a mega-university:

1. Cosmic Constellation:

Imagine a deep-space aesthetic where stars, nebulae, and interconnected galaxies form the backdrop. The stars represent individual learners and the intricate constellations—the diverse fields and specializations connecting them. This theme encapsulates the infinite universe of knowledge and the vast reach of education, conveying both inspiration and boundless opportunity.

2. Infinite Data Streams:

Visualize abstract, flowing patterns of light and digital code that cascade across the canvas in endless loops. This theme uses the aesthetics of circuit boards and neural networks to illustrate continuous growth, real-time connectivity, and the dynamic

transmission of information. It's a bold representation of a future-proof educational infrastructure driven by technology.

3. Organic Growth and Neural Networks:

Consider merging natural imagery with digital motifs—imagine a tree whose branches and roots intertwine with glowing data lines. The organic curves symbolize growth, life, and sustainability, while the embedded digital patterns denote advanced technology and global connectivity. This hybrid approach mirrors the nurturing of knowledge through both tradition and innovation.

4. Abstract Architectural Geometry:

Instead of a conventional campus, use abstract, modular forms and geometric shapes that suggest a futuristic, eco-conscious built environment. Clean lines, interlocking patterns, and layers of translucent color can evoke both the strength of well-constructed degrees and the scalability of an institution designed to expand alongside technological advances.

5. Virtual Reality Landscape:

Envision a surreal, multi-layered digital realm that blurs the boundaries between physical space and virtual interaction. Holographic interfaces, augmented reality elements, and fragmented digital landscapes can allude to immersive learning environments. This theme not only highlights technology's role in enabling worldwide education but also radiates confidence in a transformative, hybrid educational experience.

6. Global Network Map:

Think of a stylized rendering of a world map interlaced with a vibrant network of interconnected nodes and data paths. This theme emphasizes inclusivity and a worldwide reach, with each node symbolizing a student or community of learners, all linked by a robust digital infrastructure. It's a visual metaphor for how education can dissolve geographic boundaries and unite diverse cultures under a common vision.

Each of these themes offers a distinct narrative—from the cosmic and expansive to the intimate and organic—all of which convey both the visionary and practical aspects of a mega-university. They invite viewers to see education not as a static institution but as an evolving, scalable ecosystem that harnesses technology and maintains a profound human connection.

If you're interested in diving deeper, you might explore the interplay between traditional educational symbols and futuristic digital aesthetics, creating a visual dialogue that honors the heritage of learning while boldly stepping into the future.

Wow. My final prompt:

Please provide a photo-realistic image conveying those points.

And so, the image at the centre of the cover.

Whether this book has a suitable cover will always be open to preference. Whether its design was more convenient has a simple answer. What surprised me is how pleasant and responsive Copilot was to work with. It didn't just give me what I asked for; it was transparent with its interpretation of my request; was happy to provide instant alternatives; was timely in its revisions; and was not insistent on its previous output. I could easily prepare multiple options within an hour, based on steadily refined prompts. The images included the one below, which aimed to illustrate the reach of mega-universities beyond cities to remote regions.



*Figure Intro.3: Copilot output
(see prompt in text).*

No wonder the availability, patience, and power of GenAI is proving popular with learners and progressive educators.

There are three observations I want to draw out from his illustration to introduce this book.

Reflections on GenAI

The first is, knowledge-media is now *well beyond* what it was 30 years ago. The levels of connectivity and bandwidth, coupled with the digitisation of knowledge and our improving interfaces with technology, were only distant gleams in 1996. Further, little as a decade ago (pre-Covid-19) few of us would have anticipated videoconferencing and GenAI, to take just two examples, as they are now experienced every day. The challenges and potential for education from these technologies are both urgent and inevitable. Between these covers, or within the vertical scrolling extremes of this as a digital version, you will find multiple, informed, expert perspectives on available, inclusive, scalable, and sustainable education as exemplified in mega-universities. Importantly, though, the effect of GenAI is yet to be realised. Technology continues to frame possibilities.

The second is this: from my opening illustration, you may have noticed that in some ways I *capitulated* the cover's design. The cover reflects some ideas I had, but the prompt finally

used by Copilot was not mine; it was *Copilot's*. In the end, I requested Copilot prepare a final image based on its own set of suggested themes. There is a subtle hint there that in some ways Copilot did all the work, which presents a challenge to our fundamental (or perhaps antiquated?) values of what it means to design, have expertise, or even *know*. As we turn our attention to mega-universities and the provision of higher education in ways that are available, inclusive, scalable, and sustainable, we are caught in an epistemological dilemma: what does it mean to know and educate, and even to learn and be educated, in a landscape where knowledge media now dominates to the extent we can outsource our thinking? The terms 'meta-cognitive laziness' (Fan et. al., 2025), 'cognitive debt' (Kozmyna et. al., 2025) and even 'agentic misalignment' (Anthropic, 2025), are among those immediate issues that remind us that higher education is needed *because of* GenAI, as much as higher education might be *enriched by* GenAI. Hopefully, GenAI will not replace universities; indeed, we will need universities all the more precisely *because* we have GenAI.

The third is, to a large extent, the efficiencies of the cover designed by AI are illusory. I still needed the services of a graphic designer, because the resultant image's resolution was unsuitable for printing. I here need to acknowledge Kirsten Bolton of the Open Polytechnic DX team, supported by Lucinda DeMoura, for the to-ing and fro-ing that finally got us to the *actual* cover. In some situations, the value-add of GenAI still remains illusory and out-of-reach for the casual user.

Two years ago, GenAI was innovative, immature, and intriguing. It is increasingly imminent, integrated, and indispensable. I am left wondering the role this book might play in contemporary scholarship, and the future of available, inclusive, scalable, and sustainable higher education as a pursuit. Rather than the many hours and detailed work that has gone into this book, could GenAI have cobbled together something more insightful and engaging? What does this problem suggest about the future of scholarship, and indeed the teaching and learning and research foundational to universities?

GenAI will undoubtedly play a critical role in mega- (indeed, all) universities, likely much more than my wondering in this Introduction suggests. Consider, for example, the possibilities GenAI provides for collaborative or group work. In the asynchronous model typical to classic open and distance education, group work was always problematic. But what if GenAI could take on different personas as a collaborative partner, or as multiple team members? Could we end the cringe and student laboriousness of collaborative activities, while also providing unprecedented clarity as to student participation, coupled with a tailored, even individualised, learning experience?

There are opportunities here we can only speculate on.

Ultimately, we find ourselves in the same bind likely sensed by Sir John Daniel, writing in the mid-1990s: Where will all this technology take us? What will an editor write in 30

years' time about mega-universities and higher education? Will either mega-universities or higher education bear any resemblance to what is assumed in this work?

Regardless of the answers to these questions, this book provides the best analysis and advice for making higher education truly available, inclusive, scalable, and sustainable as of the mid-2020s. These themes, central to the ICDE strategic purpose, are universal in their appeal. Leaders across all universities will find the insights across these chapters exceptionally useful as they deliberate their futures. The authors are internationally renowned and are among the top scholars and authorities in the field. Further, they bring considerable human wisdom and experience to our topic, in addition to their human intelligence.

Of course, the core idea for this book is that universities can, and ought to, strive for education that is available, inclusive, scalable, and sustainable. These terms, three of which are now central to the activities of the International Council for Open and Distance Education (ICDE),⁴ are best expressed in mega-universities and those that function like them. Sir John Daniel's 1996 book has guided many open and distance universities toward mega-university status, and the global higher education community owes him a great deal of thanks. This work is intended as part of that gratitude.

I wonder. In 30 years' time it would be rewarding to have someone revisit the subject of mega-universities and opening education by design again. Just as readers present in the late 1990s (last Millenium!) would likely find the contents of this volume inconceivable, so I wonder whether we would be amazed by how higher education's trajectory will continue as technology continues to take us to surprising places.

I'll keep an eye out for the next editor's efforts in the mid-2050s. I'm already curious, both about the book and the role GenAI will take in its generation. I anticipate the next title will come from an Artificial Editor and be compiled with less error in under a minute.

Structure of the book

This book is divided into three sections.

Section One, *On mega-universities*, explores the role and nature of mega-universities, while also exploring their context. Contributions from Som Naidu; Aras Bozkurt; Mpine Makoe and Shila Mphahlele; and Kamran Mir, Ana Elena Schalk, Geraldine Gray &

⁴ 'Available' is the odd one out. Terms being what they are, many would consider 'available' to be a component of 'inclusive.' There's not much to be gained by arguing the toss here; my personal preference is for 'available' to be included as an additional characteristic, as it draws attention to a broader variety of strategic opportunities. See my chapter 2.5. I did not hesitate to endorse the three terms used in the most recent ICDE strategy, as these in themselves still represent a positive new focus.

Muhammad Zafar Iqbal explore the current landscape and provide useful lessons about where we find ourselves.

Section Two, *Mega-university strategy*, considers the opportunities available to all universities to increase their reach. Multiple ideas for reaching and furthering mega-university status toward education that is more available, inclusive, scalable, and sustainable are provided from authors including Sanjaya Mishra; Don Olcott, Jr.; Ross Paul; Stephen Murgatroyd; and me.

The final section, *Case studies*, contains two chapters from very different institutions telling very different stories. Both are highly illustrative and represent a personal highlight of this volume. Paul LeBlanc tells the incredible story of Southern New Hampshire University (SNHU) and its journey, as the chapter is titled, ‘from small residential to mega-university.’ Next, Wang Qiming, writing from the perspective of President of the world’s largest mega-university, reveals the potential of mega-universities to bring about ambitious change at a national level and how mega-university infrastructure might be applied to a nation’s ambition to provide lifelong learning.

A concluding chapter brings together some ideas related to developing education systems that assist universities become mega-universities and influence favourable conditions for designing available, inclusive, scalable, and sustainable education. A subsequent Appendix seeks to identify all mega-universities as at mid-2025, and includes comments on the difficulties of comparison.

Each chapter includes some GenAI-generated features. A QR code at the start of each chapter will take you to a Gemini-generated podcast-style summary of each episode. Take a listen; you’re likely to be impressed. As an ex-podcaster I am both surprised and fascinated at the results. A ‘Copilot summary’ is also offered for each chapter; these are handy for ready access to the main ideas.

It is too easy to be distracted by GenAI. So, back to our main theme. As title of this book indicates, education is ‘opened up’ by ‘design.’ I will return to these points in my closing chapter. For now, it is enough to note that any detrimental characteristic of unavailability, exclusiveness, rigidity, or unsustainability in higher education requires a different design decision for correction. Fundamental to this book is the conviction that contemporary problems of higher education *can* be resolved should we design universities, and the systems they operate within, in ways that are available, inclusive, scalable, and sustainable.

Let’s explore how and why mega-institutions are a vital part of the solution.

AI statement

No chapters of this book are authored by GenAI, though one author advises that their chapter made extensive use of GenAI and another acknowledges the role GenAI played.

The image at the centre of the cover was generated by Copilot, powered by GPT-4 (as of May 2025). The editorial task was unassisted by GenAI agents; GenAI's role was limited to confirming references, which were first checked carefully by authors and the editor.

Copilot (GPT-4-turbo, as of August 2025) was also used for the 'Copilot summary' sections (some have been subsequently edited). Gemini 2.5 Flash (as of August 2025) generated the podcast episodes for each chapter.

Readers are directed to Bozkurt (2024) for a preferential treatment of the use of GenAI in scholarly work.

Copilot summary

This introductory chapter to 'Mega-universities and opening education by design' edited by Mark Nichols discusses the importance of designing universities to be available, inclusive, scalable, and sustainable. The book itself explores how mega-institutions can address contemporary higher education challenges. It highlights the role of Generative Artificial Intelligence (GenAI) in creating the book's cover and discusses the potential of GenAI in education. The book is divided into three sections: the role and nature of mega-universities, strategies for achieving mega-university status, and case studies illustrating their impact.

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Author profile

Dr Mark Nichols is a distinguished leader in the field of open, flexible, and distance learning (OFDL), with over 25 years of experience in higher education.

Mark's commitment to OFDL is reflected in his role as President of the International Council for Open and Distance Education (ICDE) since 2024. He has also served on the executive committees of ICDE, EDEN (of which he is a Fellow), Ascilite, and FLANZ (as a lifelong member). He is currently the Executive Director of Learning Design & Development at the Open Polytechnic of New Zealand, where he leads a team of over 100 professionals in creating innovative, inclusive courseware.

Mark is a current Commonwealth of Learning Chair and, as of 2018, a Principal Fellow of the Higher Education Academy (PFHEA). His career includes time as a Director of Technology Enhanced Learning with the Open University, United Kingdom, and he has over 45 scholarly publications. He is also a member of the editorial boards of several leading international journals in open, distance, and online education.

Mark's professional philosophy centres on the principles of availability, inclusivity, scalability, and sustainability in education, and the design of education practices that include these principles. In November of 2025 Mark will co-convene the 30th ICDE World Conference in *Whangannui-a-Tara* Wellington, *Aotearoa* New Zealand, the event at which this book is launched.

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Section One:

ON MEGA-UNIVERSITIES

CHAPTER 1.1

The foundations of open, flexible, and designed education

Som Naidu



“...conventional campus-based educational institutions are based on the one same old template... Most are... trying to implant openness and flexibility on top of a centuries-old campus-based paradigm that is resistant to change, and too hard to amend without fundamental reform.”

In the absence of wealth, power, and prestige, education is the greatest leveller. This includes both formal as well as non-formal education. And unlike wealth, power, and prestige, education is something that cannot be taken away from anyone. Once we have it, it stays with us forever. It stands to reason therefore, that everyone ought to have access to education, for without it there can be no real freedom and justice (Sen, 2009).

Freedom and justice mean a lot more than being able to exercise one's rights and responsibilities in a fair and free society. Real freedom and justice are about having the capacity to make informed choices to be able to live productive lives, and education is the only tool that can enable one to exercise that capacity effectively (Stiglitz, 2024).

In contemporary societies education, both formal and non-formal, is generally institutionalised; teachers and learners converge to engage in the development of knowledge, skills, and competencies. Traditionally, much of this learning and teaching transaction has been contiguous and carried out *in situ*, although a great deal of learning also takes place informally and independently at one's own volition outside of these formal arrangements in homes, community centres, libraries, and places of worship.

A major and universal problem with this kind of educational provision is the cost of the infrastructure that is required to support it, as well as the costs for learners and their parents to access it. Little wonder, then, that access to it is limited to a privileged few and concentrated in wealthier and developed contexts. Although, even in wealthier contexts, *in situ* and onsite educational provision remains unaffordable and inaccessible to a wide range of people including those with disability, disadvantage, and others who are deliberately denied access due to incarceration, ethnicity, and gender. Conventional

educational provision, while beneficial for some, has created an inequitable global community. These inequities are enormous and wide-ranging, extending from individuals to whole communities, as it is widely acknowledged that education has an enduring effect on health and household incomes (Mirowsky, & Ross, 2003).

Education for all

Education for all, therefore, is not only a desirable goal but also a noble pursuit for building productive lives and livelihoods. The United Nations General Assembly has long acknowledged that education is the basic building block of every society, emphasising that it is the single best investment countries can make to build prosperous, healthy, and equitable societies. Article 26 of the 1948 Universal Declaration of Human Rights proclaims that ‘everyone has the right to education [and that] education shall be free, especially in the elementary and fundamental stages.’⁵ In addition, Goal Four of the United Nations 2030 Agenda for Sustainable Development calls for ‘inclusive, equitable, and quality education, and the promotion of lifelong learning opportunities for all’ (United Nations, 2015).

However, despite significant global advancements toward universal access, education for all remains an elusive goal, and far from achieved (Weller, 2014). A mid-term review of Sustainable Development Goal Four (SDG4) targets shows that, while primary and secondary school completion rates are rising, the pace is slow and uneven (UNESCO, 2023). Without a revamped effort in relation to SDG4 targets, it is estimated that 84 million children will remain out of school, 300 million students will lack basic numeracy and literacy, and only one in six countries is likely to achieve universal secondary education.⁶ The details of this review suggest furthermore, that if countries were to be on track to meeting their national 2030 targets, we would have six million more children already in early childhood education; 58 million more children, adolescents and youth in school; and 1.7 million more primary school teachers already trained. To get back on track for SDG4 we need a further 1.4 million children enrolled in early childhood education programs every year; a new child enrolled in school every two seconds; and a tripling of annual progress in primary school completion rates (UNESCO, 2023).

Reimagining education systems

A key stumbling block and a major reason for the lack of progress against SDG4 is the misalignment of operational models of educational provision against the goals and

⁵ <https://www.un.org/en/about-us/universal-declaration-of-human-rights> (accessed 4 August 2025).

⁶ <https://sdgs.un.org/goals/goal4> (accessed 4 August 2025).

aspirations for achieving the United Nations' education for all agenda. In order to achieve these laudable goals and its targets, a reimagination and re-engineering of education systems is required (Naidu & Roberts, 2018). This kind of systemic rethink and re-engineering of current systems and approaches to educational provision requires a much larger allocation of resources from national budgets to the education sector. But, more importantly, achieving SDG4 targets requires a reimagination of educational provision for: a) open access to educational opportunities; and b) the adoption of open and flexible learning and teaching strategies, alongside open and flexible forms of scholarship (Hrastinski, Paul, & Åkerfeldt, 2024; Naidu, 2016).

A) Opening up access to educational opportunities

Conventional models of schooling globally have traditionally required learners and teachers to converge at specific locations to engage in the learning and teaching transaction. These place- and time-bound models, methods, and strategies are woefully inadequate for achieving SDG4 targets, no matter how hard they are tried. The traditional education model is especially inconvenient and inaccessible to a wide range of people such as those with physical disabilities and other forms of lived disadvantage, as well as to those who are simply unable to attend these facilities because of their location or other competing commitments. Collectively, those inconvenienced comprises a very large population segment in every community, and so it follows that, because of poor access to education, the collective strength and development potential of that community is considerably diminished.

To be able to optimise the full potential of every individual and whole societies, all models of educational provision must aspire to opening access to educational opportunity to all, regardless of their context or condition (Hrastinski, Paul, & Åkerfeldt, 2024). This means the deliberate removal of typical barriers to those with disability and lived disadvantage including, in some cases, any obligation to pay. What is needed is widespread adoption of policies and practices by educational systems and institutions that enable open access to their services. Commonly known examples of such nontraditional practices include 'distance,' 'blended,' 'hybrid,' and other similar forms of educational provision which enable open and flexible access to learning and teaching opportunities with choices for students and teachers that fit around their circumstances.

The adoption and execution of such alternative educational approaches requires policies and practices that will inevitably make demands on institutional resources, such as for new and additional staffing and infrastructure which, understandably, not all educational institutions will possess (Evans & Jakupiec, 2023). And when it comes to opening access, of course there can be no one size that fits all. Educational access is best seen on a continuum from very closed to very open, as there will always be some operations that will be more open than others. Within a country's overall educational ecosystem therefore, there can be fully dedicated open education systems (such as open, mega-

universities), and conventional campus-based institutions with multiple modes of operation, including distance education and hybrid forms. In this ecosystem there can also be institutions that offer open access in a range of different ways, such as for different durations and across specialist programs or courses (Naidu, 2023).

B) Open, flexible learning and teaching strategies, and open scholarship

The idea of ‘open’ is not limited to opening access to educational provision, although opening access to educational opportunity may seem like the obvious starting point for the re-imagination and re-engineering of education systems. This kind of re-thinking does not stop there, however limited or broad that might be. It involves opening access to educational opportunity across several other critical dimensions and enduring commitments to learning and teaching that most education systems, including so-called open education systems, fail to engage with seriously enough. These dimensions, addressed in more detail below, are the products of deliberate design. They include learning experience design; learner-content interaction (including open licencing and its affordances); learner-teacher interaction; learner-learner interaction; learner interaction with their assessment activities; learner interaction with feedback; and learner interaction with the learning environment.

Learning experience design

Often, rather erroneously, referred to as learning or instructional design, *learning experience design* comprises the acts of designing and developing students’ learning experiences (Saçak, Bozkurt, & Wagner, 2021). It is in fact, impossible to design learning per se because learning is a cognitive process. Therefore, all one can do is design what learners and their teachers can, and will, do as part of their learning and teaching transaction, that is, their learning experience. This learning experience will, hopefully, afford students the best chances of achieving course learning outcomes, and enable them to make most of the learning opportunities they afford. Furthermore, learners will differ in the extent to which they are able to achieve these learning outcomes based on a whole lot of factors, some of which are due to their own effort and initiative, and others that have to do with the environment and its resources. Getting the mixture right between openness and closedness (of formal structures) is the key to how productive a learning experience can be, for individualised as well as collaborative learning (Daniel, & Marquis, 1988; Anderson, 2003).

Learner-content interaction

One of the many critical considerations in the design of the student learning experience is learners’ engagement with the subject matter, which is concerned with how learners access and interact with course content. Traditionally, subject matter has been presented to learners via the agency of the teacher, perhaps with the addition of printed, audio and video materials. Usually copyrighted, subject matter presented in this form is not

open to adaptation or modification, considerably limiting learner's interaction and engagement with the content. The recent development and adoption of an alternative open licensing framework⁷ opens up new possibilities, not only on how subject matter is presented, but more importantly, on how it is utilised by both teachers and students.

An open license framework offers many benefits (Gallagher, & Lamb, 2023). Foremost, it allows cost-free access to those educational resources licensed under this scheme. For learners, this is particularly important as it means that the ability to pay for educational resources, which can be quite prohibitive at times, is no longer an impediment to educational access. Other benefits beyond cost include the right to use, revise, remix, retain, reuse, and redistribute educational materials without seeking prior permissions from their authors or owners (based on the licence applied). This means that subject matter is available for more than mere consumption by learners. Instead, learners and their teachers can question, interrogate and modify the materials to better suit their own context and perspectives. The value proposition of this kind of an open licensing scheme is based on the premise that education is a basic need, some might argue a *right*, that should be accessible to all. And, to be able to achieve this goal, products of scholarship and intellectual property should be accessible to all, openly and freely, if we are to achieve real freedom, justice, equality, and education for all.

Learner-teacher interaction

Another critical consideration in the design of the student learning experience is learners' engagement with their teachers and tutors. There are different schools of thought on the most powerful form of this relationship and its execution in the learning and teaching transaction. Proponents of direct instruction (Kurt, 2022), would like a lot more teacher direction, while those in favour of a constructivist approach to learning are likely to push for a lot more learner control and direction of their own learning activities (Steffe, & Gale, 2012).

While seemingly opposed to each other, direct instruction and constructivist approaches are not contradictory in relation to their overall objectives (Kuhn, 2007). Both approaches stress the importance of detailed design and execution of the acts of teaching. The key difference between the two is in how each sees the role of the learner playing out in their learning. Arguably, constructivists are more interested in learners' own interpretation and understandings of the subject matter, as opposed to that of the teacher's in the case of direct instruction. The teacher's role in both approaches, while different in how it is executed, is absolutely critical, especially in a technology rich, and an increasingly information dense learning environment (Bruner, 1985; Wang, 2022). The most productive learner-teacher relationships are those where learners have choices in relation to the mode and method of their engagement, and interaction with their

⁷ See <https://creativecommons.org/share-your-work/cclicenses/> (accessed 4 August 2025).

teachers. The more flexibility learners have in this relationship with their teachers, the more productive their learning experience is likely to be.

Learner-learner interaction

An especially important consideration in the design of the student learning experience is learners' engagement and interaction with other learners, which is referring to the dynamics of the learning community. This might be in small and large groups, and in offline and online modes. The importance of learner-learner engagement is based on the premise that learning is a social process, and as such it is more effective, efficient, and engaging in the presence of other learners. Learning and teaching are naturally occurring attributes of our species which, when optimised with the help of peers, afford the most productive learning experiences (Eun, 2019). Of course, this does not suggest that learning cannot occur in isolation or independently (Brookfield, 1982).

The act of learning and teaching is not an exact science, and one does not necessarily have a distinct causal effect on the other. Learning can occur despite any teaching, and the presence of teaching does not necessarily ensure learning. However, the more choices learners have in relation to the mode and method of their engagement with their learning community, the more supported and productive their learning experience will be, although it is arguable that some students might prefer to work alone, out of preference for independence, but also perhaps due to their location, or unique special circumstances. Overall, however, there is substantial evidence to suggest that learning is enhanced in groups and within a community of enquiry (Gao, Ward, & Fabricatore, 2023).

Learner interaction with assessment

The most productive learning experiences are those that afford learners the best opportunities for learning, which is often evaluated by their performance on assessment activities. In most cases, especially in formal educational settings, assessment of learning achievement takes the form of norm-referenced testing where the performance of individuals is measured against those of their peers (McGrath, 2011). Arguably norm-referencing is an unfair approach, as group-based learning fails to account for individual difference as no two individuals are the same in their learning capacities. An alternative approach is criterion-referenced assessment, in which the performance of individuals is measured against pre-specified criteria (Berger, 2021).

Regardless of the approach taken, most assessment measures are too often seen as instruments for measuring learning achievement, rather than something that learners can engage with for the improvement of their learning. This spans both summative and formative assessment activities, so there is generally little to no opportunity for learners to learn from these activities or use them to their advantage. The more productive learning experiences are those that afford learners appropriate choices in relation to

their engagement with, and fulfilment of their assessment tasks. These choices may include opportunities for learners to select from a set of tasks that best suits them and their context. They may also include choices in relation to the time, place and perhaps resources as well for learners to be able to complete these tasks with impunity.

Learner interaction with feedback

A rather neglected part of learning experience design is learners' engagement with feedback on their assessment activities. Traditionally, feedback on assessment activities has taken the form of a numerical mark or a grade. This kind of feedback, quite often coming long after the completion of the task, is rather unhelpful to the learner as by the time it arrived, the learner is unable to derive any benefit from such feedback; by then, they may have moved onto other activities. For feedback to be useful, it needs to be timely, targeted, and designed to improve learning as opposed to serving a summative assessment of performance (Bangert-Drowns, et.al., 1991). This kind of feedback is in short supply as it takes more time, effort and resources, which are usually limited in most educational settings, and especially so in open, flexible and distance learning environments with its large numbers.

Access to emerging technologies such as Generative Artificial Intelligence (GenAI) has the potential to overcome many of the challenges faced in the provision of effective and engaging feedback to learners (Correia, Hickey, & Xu, 2024). These include opportunities for providing feedback other than in written form, which is much easier to provide using a wide range of GenAI tools. Furthermore, feedback can come from sources other than the teachers, to include tutors, student peers and a growing list of GenAI tools. The more choices learners have in relation to their access to feedback on their learning and assessment activities, including personalisation of that feedback, the more inviting and motivating their learning experience becomes.

Learner engagement with the learning environment

The design of the student learning experience needs to extend beyond pedagogical considerations to also include learners' engagement with the learning and teaching environment, including physical resources and the services provided by the educational institution itself. Students' engagement with their learning and teaching environment is about their access to, and interaction and engagement with, the learning and teaching mode in which they are enrolled. Learners' engagement with the *institution* refers to how learners are able to approach, interact, and engage with the educational institution and its services.

Most conventional campus-based educational institutions are based on the one same old template. This comprises location-bound infrastructure comprising, lecture and meeting rooms, laboratories and libraries for private study and group work. This model of educational provision, however, has been under stress not only from a growing

demand for its resources, but competition from other modes. With the help of mobile devices, Wi-Fi access and innovative use of the physical study space, this conventional campus-based model is undergoing reform with more open and flexible access to its services, although with limited success. Most are struggling because they are trying to implant openness and flexibility on top of a centuries-old campus-based paradigm that is resistant to change, and too hard to amend without fundamental reform.

On designing the learning experience

The adoption of a more agile, open, and flexible learning system requires foremost, a different set of principles, policies, and infrastructure to support it. But more importantly, it requires a shift in mindsets, and different skills set among followers and leaders (Naidu, 2019). All of this requires time and money to develop, both of which are frequently in short supply. Attempts to adopt such changes without adequately preparing students and staff on how best to engage with openness and flexibility have not only encountered resistance to change but hostility, and a blanket disappointment with the disruptions caused by open and flexible models of learning and teaching.

The key to expanding openness and flexibility lies in careful design and orchestration of the educational experience. This effort needs to be both a top-down, and bottom-up process. The more complex the educational operation, the greater the level of design that is required; and a one size and format approach will not fit all. While design as a science is crucial to all aspects of the educational system, how it plays out in relation to its teaching and learning functions is controversial. Traditionally, teaching, especially in tertiary educational settings, has been the sole responsibility of academic staff who are appointed for their research and scholarship in a field of practice. While this is a tried and tested model that has worked well for long, it is unsuitable for the contemporary educational space. Teachers must possess, in addition to their discipline-based expertise, competence to teach it to others as arguably, some level of design goes into the development of any educational experience (Heurich, & Lukács, 2023).

While most institutions will have very rigorous processes in place for the development and approval of programmes, the *teaching design* of programmes and courses in most universities is left to the individual or teams of academics in charge, with little to no help from educational designers and technologists. So, more often than not, teaching academics are left to their own devices in relation to the design of teaching activities though there is growing evidence, among contemporary educational institutions, of investment in design centres with specialist staff in learning experience design and technology. These specialist centres however, especially those found in conventional educational operations, have their own challenges in relation to their ability to influence change. Without any academic influence and ownership, the role of these specialists

remains advisory, and teaching academics (who have ownership and responsibility for these courses) are free to take on or ignore their advice.

An approach worth investigating is to *require* all teaching academic staff to possess educational design qualifications along with their discipline-based expertise (Naidu, 2024a) and require learning design and technology specialists to have a collegiate rather than service function. A teaching academic is after all a teacher, not just a researcher, and it would be reasonable for any teacher, regardless of their context, to possess explicit teaching qualifications along with advanced qualifications in their subject matter domain (in whichever field that may be).

Mega-universities, alongside boutique open, flexible, and distance learning operations, have especially challenged the conventional educational paradigm with its dependence on subject matter experts (Iniesto, & Bossu, 2023). In open universities we typically see the transfer of the design and development of the course or programme into the hands of a multi-skilled course team, with the teaching of it left to teachers and tutors who may or may not have a hand in its design (Chung, 2001). There are many advantages to this model. Foremost, it has the potential to ensure a higher level of rigour and consistency in how courses and programmes are designed and developed across an organisation. Second, the approach affords a distributed model of teaching with the potential to reach out to a much larger number of learners and without borders, thus increasing the university's reach and contribution to the 'education for all' agenda (Goorney, Sarantinou, & Sherson, 2023).

This does not suggest that any one mode of learning and teaching is better than the other. All institutions, from open and mega-universities to research-intensive, campus-based boutique operations, are needed to meet the wide variety of educational needs in contemporary societies (Koçdar, et.al., 2023). In areas such as medicine, science and engineering, it is best that students and teachers can gather in person in order to access and use limited and expensive infrastructure. For this we need research intensive and location-bound facilities. In other areas of study, we can afford to have learning and teaching operations which are not so location-bound, and which have a much broader appeal and reach. In all cases however, we need deliberate design: not just of the pedagogy, but also of the learning and teaching environment as well as the institutional infrastructure and resources that are required to support it (Naidu, 2024b).

Copilot summary

This chapter, by Som Naidu, discusses the limitations of traditional campus-based education and advocates for open and flexible learning models. It highlights the importance of education as a leveller and a fundamental right, as recognised by the United Nations. The chapter emphasises the need for reimagining education systems to achieve Sustainable Development Goal 4 (SDG4), and calls for the

adoption of open access, flexible learning strategies, and open scholarship to ensure inclusive and equitable education for all.

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Author profile

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Dr. Naidu has also served as a former president of the Open and Distance Learning Association of Australia (ODLAA), and Executive Editor of its journal *Distance Education*⁸ of over three decades. In 2014, the Open University of Sri Lanka awarded Dr. Naidu a D.Litt. (Honoris Causa), in recognition of his extensive contribution to the field of open, flexible, distance, and e-learning both regionally and internationally, and in July 2020 Advance Higher Education, UK, admitted Dr. Naidu as a Principal Fellow of the Higher Education Academy for his commitment, contribution and strategic leadership in the scholarship of learning and teaching globally.

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⁸ <https://www.tandfonline.com/toc/cdie20/current> (accessed 4 August 2025).

CHAPTER 1.2

Resilience by design: the mega-university response to Covid-19

Aras Bozkurt



“The pandemic reinforced the importance of openness not merely as a practical strategy... but as praxis, deeply rooted in principles of human-centeredness and empathy....”

The Covid-19 pandemic was widely described in literature as an unprecedented global crisis, an extraordinary disruption that acted as a ‘great reset’ for societies worldwide (Bozkurt & Sharma, 2020a). This characterisation, repeatedly echoed in numerous academic publications, highlights the profound and far-reaching impact the pandemic had on formal education systems. The pandemic affected over 1.5 billion learners (nearly 90% of the global student population), and triggered a massive, abrupt shift from traditional face-to-face instruction to remote alternatives. As educational systems scrambled to adapt, the notion of a ‘new normal’ emerged, marked by hybrid learning models, increased reliance on digital tools, and heightened awareness of educational inequalities.

The educational response to the pandemic and its multifaceted effects can be understood through several key themes that have consistently emerged in recent research (Bond, 2020; Bozkurt & Sharma, 2020a; 2020b; Bozkurt et al., 2020; Mishra et al., 2021; Stracke et al., 2022a). This chapter analyses those impacts by focusing specifically on the resilience demonstrated by mega- and giga-universities, in contrast to the more reactive models of Emergency Remote Teaching and Learning (ERTL).

Openness, mega-, and giga-universities

To fully understand the resilience and adaptability of educational systems during the Covid-19 pandemic, it is essential to revisit the foundational concepts of openness, and the institutional models built upon them. The philosophy rooted in accessibility, flexibility, and learner empowerment is known by many names; my preferred guise is

Open Online Distance Education (OODE), which a rich intellectual tradition more so than a modality of instruction. ODDE has evolved to harness technological advancements to bridge not only geographical distances but also transactional and psychological gaps in the learning process (Bozkurt, 2019a).

Open universities emerged as institutional embodiments of this philosophy. Purposefully designed to support non-traditional, underserved, and geographically dispersed learners, open universities are guided by the principles of inclusivity, democratisation of knowledge, and educational equity (Zawacki-Richter et al., 2020). These institutions prioritise open admissions, flexible pacing, and multimodal delivery formats, all features that prove critical during times of systemic disruption such as the Covid-19 pandemic.

Within the ODDE framework, mega universities (defined by Daniel, 1996 as institutions serving over 100,000 learners) represent a scalable response to mass education needs. Giga-universities, such as Anadolu University in Türkiye, extend this logic further by reaching *millions* of students through digital ecosystems, integrated learner support services, and expansive content repositories (Bozkurt, 2019b). Their scale, however, is not merely a numerical feat; it reflects an institutional capacity for sustainable, resilient, and inclusive education making them uniquely positioned to respond effectively to global crises like Covid-19.

Contrasting ERTL with ODDE

ERTL is described as a temporary, rapid-response shift to remote instructional delivery due to a crisis (Bozkurt & Sharma, 2020b; Hodges et al., 2020). ERTL was an obligation rather than an option, focused on survival and ensuring educational continuity with whatever resources were available. Its implementation was often a direct imitation of face-to-face practices simply moved online, a pedagogical error referred to as the 'CTRL+C / CTRL+V' (Copy, Paste) educational sin (Bozkurt & Sharma, 2020a).

Educational practices during the Covid-19 pandemic have been denoted with various terms in different countries, such as distance education, e-learning, online education, homeschooling, and many others. However, these terms do not fully capture what occurred during the interruption of education, which can be more accurately described as ERTL. Unlike planned distance education, ERTL was not a voluntary or optional approach; rather, it was compulsory due to the extraordinary circumstances presented by the pandemic.

Clarity in terminology is crucial, as misconceptions in definitions can lead directly to misconceptions in educational practices. Planned distance education, including OODE, is meticulously designed and rooted in established theoretical and practical frameworks unique to the distance education field. Conversely, ERTL was primarily about

educational survival, leveraging any available resources, both offline and online, to ensure continuity in learning (Bozkurt et al., 2020).

Psychological impact and the pedagogy of care

The pandemic was not only a biological crisis, but also a social and psychological one. It inflicted trauma, stress, anxiety, and a sense of isolation on students, teachers, and parents. Studies identified the negative psychological impact on learners' mental well-being as a primary theme significantly affecting academic performance globally, though responses varied by hemisphere and socio-demographic factors (Bozkurt & Sharma, 2021).

In response to the negative experience of Covid-19 came a strong call for a pedagogy of care, affection, and empathy. This approach prioritises human connection and learners' emotional needs over simple content delivery, and advocates for reducing psychological and communicational distance by increasing affective proximity. After all, students predominantly remember the care they received during the crisis rather than specific content delivered (Bozkurt & Sharma, 2021).

Open universities, leveraging their inherent principle of openness, were particularly well-positioned to implement a pedagogy of care. Examples from mega-universities such as the Open University, United Kingdom (OUUK) and giga-universities like Anadolu University (AU) highlight their ability to swiftly adapt existing learner support systems to prioritise psychological and emotional well-being. These institutions provided counselling services, psychological first aid, and accessible online resources specifically tailored to address pandemic-induced stress and anxiety, thereby exemplifying empathy-driven educational practices.

Those institutions founded on openness in education also facilitated greater flexibility and responsiveness, allowing educational institutions to quickly share and adapt resources to meet urgent psychological and emotional support needs. Open Educational Resource (OER) platforms expanded rapidly, offering materials explicitly designed to promote mental health awareness and emotional resilience among learners and educators. This responsiveness significantly mitigated the psychological impact of isolation and stress during the pandemic, demonstrating the critical role of openness in crisis conditions.

The Covid-19 pandemic as catalyst for change

The pandemic acted as a significant catalyst, shifting perceptions towards open and distance learning. Previously seen as secondary alternatives or supplementary options,

open and distance learning models were recognised post-pandemic as robust and highly resilient during crises (Bozkurt, 2022; Bozkurt et al., 2025). The increased reliance on digital solutions demonstrated the fundamental strengths of open education models in managing large-scale disruptions.

Open universities played a pivotal role in showcasing the effectiveness and practicality of open educational models during the pandemic (Stracke et al., 2022a). Institutions such as the OUUK, AU, and Indira Gandhi National Open University (IGNOU) highlighted how pre-existing digital infrastructure, and well-developed pedagogical frameworks, could swiftly and efficiently handle massive influxes of new learners. These institutions reinforced the value of preparedness, scalability, and sustainable education delivery, serving as benchmarks for traditional institutions struggling with emergency transitions.

The pandemic reinforced the importance of openness not merely as a practical strategy (Stracke et al., 2022b), but as praxis, deeply rooted in principles of human-centeredness and empathy (Bozkurt & Sharma, 2021). Open universities exemplified this through their established culture of learner support, community building, and inclusive practices. The renewed emphasis on human connection and emotional well-being within digital spaces affirmed openness as a crucial pedagogical and institutional value. Educational paradigms evolved to place higher importance on reducing transactional distance, enhancing affective proximity, and fostering genuine community-building in online environments (Bozkurt & Sharma, 2021; Bozkurt et al., 2025).

Research trends and patterns on Covid-19 and open universities

The Covid-19 pandemic generated a rapid and extensive body of research focused on its implications for education, particularly concerning open and distance learning. A synthesis of recent studies reveals several dominant research trends and evolving patterns concerning open universities and their response to the global crisis.

A surge in open university-focused scholarship

Increasing academic attention on the performance and strategic positioning of open universities during the pandemic is a distinctive trend in literature. Hou (2023) examined six open universities across Asia, Africa, and Europe, highlighting their early advantage in ensuring learning continuity due to their established infrastructure. These institutions demonstrated resilience by rapidly scaling online delivery and offering vast repositories of learning resources to society. Yet, challenges such as online examinations, ICT infrastructure, staff training, and heightened competition from conventional universities became focal areas of research.

Evolving roles and models for open universities

Teixeira and Mota (2020) provided a European perspective, emphasising how the pandemic pushed traditional universities into the digital arena. This in turn challenged the unique position of open universities. Their study suggested that European open universities must reposition themselves to remain socially relevant and competitive, calling for a revival of visionary leadership and an emphasis on innovation, flexibility, and human-centred learning models.

A new emphasis on mental health, flexibility, and inclusivity

Meta-reviews such as those of Bozkurt et al. (2020) and Bozkurt et al. (2022) identified a shift in research themes from infrastructural concerns to psychological and pedagogical issues. Emphasis on mental well-being, care-centred pedagogies, and equitable access highlighted a significant shift in educational values. Research patterns moved from the immediate crisis response to broader resilience-building, reflecting a maturing understanding of the role for open universities beyond content delivery.

Longitudinal perspectives on educator and institutional transformation

Jandrić et al. (2021) contributed significantly to understanding how educators' roles, perceptions, and pedagogical strategies evolved over the time of the Covid-19 pandemic. Their longitudinal study revealed shifts from chaotic emergency responses to more structured, flexible, and inclusive practices, underlining the transformative potential of crisis-driven adaptation.

Praxis-oriented openness and community building

Bozkurt et al. (2025) argued that openness in education during the pandemic was not merely about content access, but about the emergence of a collective consciousness and communal response to crisis. Their study suggested a shift toward openness as *praxis*, emphasising empathy, collaboration, and shared humanity, in turn positioning open universities as central to educational resilience and transformation.

Constraints and opportunities in the Global South

Ndibalema (2022) documented specific challenges in the Global South, noting that open universities in Tanzania, for example, struggled with low digital literacy, limited bandwidth, and socio-economic disparities. However, the same studies acknowledged that open universities, due to their distance education frameworks, still performed better in maintaining instructional continuity compared to traditional universities.

Emphasis on lifelong learning and short-cycle programmes

Another emergent theme is the acceleration of lifelong learning agendas and the rise of micro-credentials. Open universities are seen as strategic actors in this transformation,

offering modular, flexible programs for reskilling and upskilling in rapidly evolving economies (Hou, 2023). These insights point to a growing research consensus that open universities must integrate lifelong learning into their strategic core.

The role of technology-enabled resilience

The concept of technological resilience, which includes how open universities leverage LMS (Learning Management System, also known as VLE or Virtual Learning Environment) platforms, mobile learning, OER repositories, and hybrid pedagogies, has also become a focal point. Studies such as those by Bozkurt et al. (2020, 2022) outline how the pre-existing digital ecosystems within open universities became key enablers of their successful pandemic response.

The synthesis of research findings provided here reveals that open universities were significantly better positioned for the abrupt shift to remote instruction during the pandemic, largely due to their pre-existing infrastructures and pedagogical frameworks. However, while this advantage served them well in the short term, their continued relevance in a changing educational landscape will depend on their ability to strategically reposition themselves.

Future competitiveness for open universities

The Covid-19 pandemic has brought resilience to the fore of all university thinking. The behaviours previously unique to open universities give a head start, but not an enduring position. Open universities must continue to embrace innovation, further their adoption of learner-centred models, and promote openness not just as content accessibility but as a core educational praxis rooted in equity and empathy.

As the global crisis transitioned from an emergency to a prolonged disruption, the focus of research also shifted from evaluating immediate responses to examining the long-term systemic transformations in higher education. Increasingly, longitudinal studies highlight how open universities are adapting to these demands, and they are frequently recognised as exemplars of institutional resilience. Their leadership in shaping inclusive, sustainable, and future-ready educational systems (through technology integration, modular learning, and open educational practices) reinforces their critical role, not just in navigating disruptions but also in reimagining the future of education. There is a growing body of literature that forms a robust knowledge base informing future policy, practice, and pedagogy in open and distance education globally.

This body of research reinforces the argument that mega- and giga-universities are not only capable of navigating large-scale disruptions, but also of shaping the future of

education through leadership in innovation, inclusion, and sustainability. Their documented experiences, as reflected in current scholarship, form a valuable knowledge base for future policy, practice, and pedagogy in open and distance education.

Lessons learned and recommendations for future resilience

The responses of mega- and giga-universities to the Covid-19 crisis offer critical insights into building resilient educational systems. Their experiences reveal key elements that contribute to institutional resilience and inform strategic planning for future disruptions.

Proactive educational design and infrastructure

Institutions must adopt proactive strategies grounded in educational design principles tailored for distance and digital learning. Open universities were able to pivot smoothly during the pandemic because they already had robust systems and methodologies in place. Their readiness illustrates that resilience begins with intentional design, not reactive improvisation.

Scalability and sustainability

The ability of mega- and giga-universities to accommodate millions of learners simultaneously is rooted in scalable infrastructure and sustainable operational models. These institutions proved that scalability is not merely about numbers; it is also about maintaining quality, equity, and learner support at scale. Sustainability, in this sense, includes financial, pedagogical, and social dimensions.

Institutionalisation of resilience

Resilience should be recognised as a core institutional value, important for all universities. This involves embedding resilience into strategic plans, decision-making frameworks, and leadership practices. Open universities have exemplified this by maintaining flexibility and learner-centred practices, even under immense pressure.

Investment in technology and human capital

Continuous investment in adaptable technological infrastructure, and the professional development of academic and administrative staff, are essential. Open universities have demonstrated how routine digital literacy training and investment in virtual learning environments can significantly improve readiness and response in emergencies.

Collaborative global networks

Establishing and strengthening global coalitions among mega- and giga-universities is vital for sharing resources, expertise, and innovations during crises. The collective

intelligence of such networks can accelerate problem-solving and mutual support, especially for under-resourced institutions.

Openness, accessibility, and equity

The pandemic exposed deep inequalities in education. Reinforcing openness, not only in terms of open resources but also open pedagogies and inclusive practices, can help bridge these gaps. Open universities, through their mission of democratising education, are well-positioned to lead in creating more equitable and accessible learning ecosystems.

These recommendations are not merely responses to the last crisis; they are foundational principles that should guide the future of higher education. As the educational landscape evolves, integrating these lessons will be critical in fostering institutions that are not only technologically adept, but also pedagogically compassionate, socially inclusive, and structurally resilient.

Conclusion and the way forward

Covid-19 served as disruptor and transformative catalyst, which highlights the value of open, resilient, and intentionally designed educational models. Mega- and giga-universities, through structured openness and scalability, emerged as exemplars demonstrating superior adaptability to crisis conditions. As educational landscapes continue evolving, these institutions serve as critical benchmarks for resilient, accessible, and inclusive higher education.

It is important to acknowledge that while Covid-19 brought global attention to the vulnerabilities of traditional education systems, ERTL is not exclusive to pandemics. ERTL may also become necessary in various other crisis scenarios such as wars, armed conflicts, political unrest, or natural disasters like earthquakes and floods. These events, much like the pandemic, can cause massive disruptions requiring rapid and temporary shifts to remote instructional modes. Therefore, the experiences of open universities during the Covid-19 pandemic provide valuable lessons for designing robust educational strategies applicable to a wide range of emergency contexts.

Mega- and giga-universities demonstrate that resilient education systems are not built overnight, but are the product of long-term commitment to openness, preparedness, and equity. Their proactive approaches, technological infrastructures, and empathetic pedagogies position them as living laboratories for educational resilience.

Moving forward, it is essential to reaffirm the transformative impact of the pandemic as an accelerator of change, innovation, and openness. The future of education must

prioritise human-centred, technology-enabled, and flexibility-driven models, which are all hallmarks of open universities. By institutionalising resilience and leveraging the foundational values of openness, the global education community can ensure continuity, equity, and adaptability, no matter what challenges lie ahead.

AI statement

Based on the Academic Integrity and Transparency in AI-assisted Research and Specification Framework (Bozkurt, 2024), the authors of this paper acknowledge that the paper was proofread and edited with the assistance of Google's Gemini (Versions as of July 2025), complementing the human editorial process.

The human authors critically assessed and validated the content to maintain academic rigor. The authors also assessed and addressed potential biases inherent in the AI-generated content. The final version of the paper is the sole responsibility of the human authors.

Copilot summary

The Covid-19 pandemic significantly impacted global education, prompting a shift to remote learning. Mega- and giga-universities, with their scalable and flexible models, demonstrated resilience and adaptability. These institutions leveraged their digital infrastructure and open educational practices to ensure continuity and support for learners. The pandemic highlighted the importance of openness, inclusivity, and mental well-being in education. The experiences of these universities provide valuable insights for building resilient educational systems capable of handling future crises.

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CHAPTER 1.3

Technology access and possibilities

Mpine Makoe & Shila Mphahlele



“Our objective is to create an inclusive and equitable environment that will ensure that every individual’s right to quality education can be met.”

This chapter analyses the role of technology in expanding educational access and its transformative potential within the University of South Africa (UNISA), one of the world’s mega-universities. Guided by a robust theoretical framework encompassing Digital Divide theory and Social Justice theory, we will explore the socioeconomic disparities and systemic barriers that hinder equitable access to education. The findings underscore the pivotal role of technology in overcoming geographical and temporal constraints, thereby enhancing lifelong learning opportunities. In African contexts, where there is an increasing number of young people who seek access to higher education, technology provides significant opportunity to engage in flexible learning.

UNISA has designed a contextualised technology solution to reach geographically dispersed students, a solution that others might emulate. What follows offers insights into the ongoing renewal of the mega-university model, driven by technological advancements, and its implications for the evolution of the university in democratising access to knowledge, fostering personalised and adaptive learning experiences, and promoting student engagement. Leveraging technology to create more inclusive and equitable educational environments is critically important, as it ultimately contributes to the dismantling of systemic inequalities.

Context

In an increasingly interconnected world, UNESCO (2020) highlights the profound possibilities of technology as a catalyst for educational access, especially for remote and underserved communities. As global demands for education continue to rise,

particularly in Africa where there is burgeoning population growth of young people, the World Bank (2018) likewise underscores the unparalleled potential of technology to bridge gaps in access and opportunity. Stark socio-economic inequalities and a legacy of exclusion continue to shape access to higher education in South Africa, where disparities in technology availability remain a major barrier. As Warschauer (2004) argues, such systemic digital divides obstruct inclusive education and significantly limit the capacity of technology to function as a transformative tool for bridging access gaps. The expansion of Open Educational Resources (OER) and the proliferation of Massive Open Online Courses (MOOCs) illustrate how technology is reshaping educational delivery, especially within mega-universities including UNISA. UNISA's application of technology to reach dispersed students is well attested to (Bajinath, 2013; Makoe & Shandu, 2019; Ngubane-Mokiwa, 2017; Van Den Berg, 2021).

UNISA, a mega-university of more than 380,000 students (Council on Higher Education, 2024) was established in 1873 as the University of Good Hope. Its original purpose was to train colonial administrators who were stationed in South Africa. In 1912 it was renamed UNISA (Manson, 2018). The University also served as an examining body for the universities of Cambridge and Oxford (Tait, 2008). In 1946 UNISA became the first dedicated distance education university in the world (Manson, 2018), across the same period it severed ties from the British Empire and became a university in support of the rise of Afrikaner nationalism (Tait, 2008). By so doing, it managed 'to diminish the domination of British origin and the mission of international distance education was born' (Tait, 2008, p.86). By the mid-20th century, UNISA offered correspondence courses allowing students from diverse and often marginalised backgrounds to access education remotely. This had a major impact on the lives of people who were previously excluded from participating in higher education, thereby playing 'a critical role in producing the skills and knowledge required to drive the economic and social developments of the country' (Van den Berg, 2021, p. 333). The UNISA model laid a foundation for what later became a robust and technologically advanced open, distance, and e-learning system.

The early 2000s marked a turning point in UNISA's approach to distance education as it merged with two other distance education providers in South Africa. The merger happened at a time when the higher education sector was going through a renewal process brought by the rapid emergence of digital technologies. Recognising the potential of these tools to enhance teaching and learning, Olcott (2021) attests that UNISA began transitioning from paper-based correspondence to digital platforms at the turn of the Millenium. This transformation was not without its challenges. Issues such as infrastructure limitations, affordability issues, and digital literacy gaps among students and lecturers posed significant barriers. However, UNISA remained steadfast in its mission to democratise education through technology, aligning its strategies with global trends in digital education.

UNISA serves as a living case study that demonstrates both the transformative potential of technology in bridging educational divides and the ongoing barriers that require systemic solutions. Memon (2024) affirms that large-scale institutions such as UNISA can provide a practical lens through which digital disparities can be seen, alongside efforts to advance equitable access. So, in the remainder of this chapter we will analyse the evolution of technology alongside exploration of the possibilities. Our objective is to create an inclusive and equitable environment that will ensure that every individual's right to quality education can be met. In an era where technology increasingly defines access to education, Digital Divide and Social Justice theories offer critical lenses for analysing and addressing the systemic barriers and transformative potential of technology in education. Through this exploration, we hope to inspire action and innovation that paves the way for a more just and accessible educational landscape. Digital teaching and learning are particularly significant for mega-universities because these institutions rely heavily on online platforms to reach diverse and geographically dispersed student populations. Addressing the digital divide to ensure equitable access requires targeted strategies across technology, training, and digital resources.

Theoretical frameworks

Digital Divide theory and Social Justice theory form the basis of our analysis.

Digital Divide theory

The basic requirements for participation in the digital environment are, first, the availability of technological infrastructure that enables connectivity and, second, having those competencies for using digital technologies. The digital divide remains a hindrance in most developing countries because of a lack of access to basic digital tools; intermittent electricity supply and internet connectivity; and a lack of those skills and knowledge needed to use digital technologies for teaching and learning (Ngubane-Mokiwa, 2017; Woldegiorgis, 2022). This problem is further exacerbated for those living in marginalised rural communities, where access to the internet comes at exorbitant cost. In most Sub-Saharan African countries, the cost of internet connectivity ranges between 50% to 80% of a household's monthly income, with Zimbabwe having the most expensive internet and Malawi the lowest internet costs in the region (Statista, 2024). Despite all these challenges, most people in Africa use mobile technologies to support online teaching and learning (Assefa et. al., 2025).

According to Digital Divide theory, lack of access to social goods such as education affects an individual's level of participation in society (Van Dijk, 2017). The digital divide is more than 'a gap between those who have access to digital technologies and connectivity' (Assefa et al., 2025, p. 16); it is based on those historical, social and political systems and structures that contribute to inequalities (Van Dijk, 2000;

Warschauer, 2004). The theory underscores the role of infrastructure, affordability, and socio-cultural factors in perpetuating the digital divide.

Social Justice theory

Digital Divide theory provides a robust analytical foundation for exploring the complex dynamics of technology access in higher education (Kuteesa et al., 2024). Relatedly, Social Justice theory emphasises the principles of equity, fairness and inclusivity in resource distribution, opportunities, and rights (Fraser, 1998, 2003; Rawls, 1985). Applied to education technology, this theory advocates for policies and practices that actively dismantle systemic barriers preventing marginalised groups from fully participating in digital education. Fraser's (2000) normative theory of social justice is based on social arrangements that allow individuals to have the abilities to fully participate as equal partners. For this to happen, social arrangements should be made available to enable individuals to participate on equal footing in all spheres of life, including economic, cultural and political spaces (Bozalek & Boughey, 2012). These perspectives highlight the need for not only equal distribution of resources but also empowering individuals to utilise public resources effectively (Fraser, 2003; Fraser & Honneth, 2003).

Perspectives and dimensions

The concept of social justice challenges policymakers and institutional leaders to move beyond superficial solutions and commit to transformative actions that address structural inequalities (Bozalek & Boughey, 2012). As we probe deeper into the intersection of technology access and possibilities, these theories will serve as guiding principles for understanding both the challenges and opportunities presented by the digital landscape in mega-universities. Open and distance universities are mandated to provide education at a scale to enable inclusivity and accessibility to education, so they are well-positioned to operationalise social justice principles through opening up access to flexible learning. Van Dijk's (2000) work on the Digital Divide and Fraser's Dimensions of Social Justice (Fraser, 2003; Fraser & Honneth, 2003) will be used to analyse how UNISA leverages innovative solutions to address those geographical, temporal, and economic constraints that stand in the way of fostering an accessible and inclusive educational environment.

Van Dijk's Perspectives	Fraser's Dimensions
<i>Material</i> Market costs Access to digital technologies and tools Mental resources including knowledge, social and technological skills, capabilities as well as social resources	<i>Redistributive (Economic)</i> Equitable allocation of resources, digital costs, disparities in income, wealth, and social status.
<i>Socio-cultural</i> Access to resources based on geographical location (rural, urban, marginalised communities) Gender, ethnicity, race, social class, medium of instruction (including languages)	<i>Recognitive (Cultural)</i> Valuing other people's cultures, language and values Recognising different voices, interests and needs
<i>Relational</i> Categorical distinctions of people who have access to technologies, based on historical legacies, social status and dominant groups	<i>Representation (participation)</i> Political influence in decision making Equitable representation in social, economic and political life

Table 1.3.1: UNISA's considerations for technology use in education based on Van Dijk (2000) and Fraser (1998, 2003)

Table 1.3.1 gives a convenient view of UNISA's considerations to students based on Digital Divide and Social Justice theories. Additional detail follows.

The Material Perspective and Redistributive (Economic) Dimension

In Digital Divide theory, Van Dijk (2000) argues that lack of access to material and immaterial goods such as education, health, and life chances are detrimental to an individuals' survival and self-respect. The use of digital technologies was meant to provide education at a scale; however, it has unintentionally excluded many people who live in communities of limited resources, further adding to educational challenges. Consider the socio-economic and geographic diversity of the UNISA student body, where some students in urban areas enjoy stable internet access while those in rural and remote locations face persistent connectivity barriers (Kumari & Srivastava, 2023). The issue of access to digital platforms is particularly challenging for UNISA, because some students have access to digital tools while others cannot afford to own technological devices, let alone have the money to purchase data.

To address connectivity problems, UNISA encourages academics to harness the affordances of mobile technologies for teaching and learning. Owning a mobile device is not a luxury in South Africa; it is a necessary tool not only for teaching and learning but for economic and social interaction. Shanahan and Bahia (2023) report that mobile phone penetration has reached 73% globally, with developing regions relying heavily on mobile devices for internet connectivity. There are more than 100 million cellular mobile connections in South Africa, with some individuals owning more than one device. Around 45 million of these phones have internet access, accounting for 75% of

mobile internet users (Kemp, 2024). Despite these numbers, about 15% of people in Africa live in areas not covered by a mobile broadband network (Statista, 2024). To ensure that students who primarily rely on mobile phones for internet access are not excluded from the digital learning experience, UNISA developed a number of projects to support students and lecturers to move to online teaching and learning. In 2012, the University embarked on what it termed a 'Signature Course' project where students could access their learning material offline from a 'digi-band,' a rubber wrist band with a USB flash drive attached to it (Bajinath, 2013). Upon registration, students received a digi-band with pre-loaded learning material including the syllabus, assessments, discussion forums, resources, email, documents, multimedia application software and web browsers (Bajinath, 2013). The purpose of the project was to ensure that students with limited access to connected internet could continue to study offline and only use internet connectivity when submitting their work. Periodically students would visit the internet café or one of the UNISA regional centres to plug into a computer to access the Learning Management System (LMS) to upload their assessments and connect with their lecturers. Some students formed groups on social media to connect with their peers. The Signature Courses are very popular at UNISA, despite the challenges faced with online teaching and learning. In 2013, the Commonwealth of Learning awarded this initiative with the Excellence for Distance Education Materials. Signature Courses have been modified over the years and still being used to this day.

The Signature Courses helped students to gain much needed digital skills to confidently study online, as well as enabling access to affordable education. Digital literacy remains another significant hurdle for effective participation in UNISA's open, distance, e-learning (OdeL) programmes. To address this gap, UNISA introduced capability building programmes for staff members and digital literacy training initiatives for students. The University established an Academic Development Open Virtual Hub (ADOVH) offering workshops, online tutorials, and self-paced training modules focused on essential skills such as navigating the Learning Management System (LMS, or Virtual Learning Environment, VLE), accessing digital libraries, and participating in virtual classrooms. The ADOVH places special emphasis on new student onboarding, ensuring students are equipped with the foundational digital competencies required for successful online learning. It is acknowledged, though, that the problem of digital inequality does not end after physical access has been attained; Van Dijk & Hacker (2003, p316) note that equality 'actually starts when the use of digital media is incorporated into daily life.'

The Socio-cultural Perspective and Recognitive (Cultural) Dimension

The intersection of economic, social, and cultural factors with digital inclusion challenges cannot be overlooked. Most UNISA students come from marginalised communities, where unemployment rates are high and disposable income is low. In such households, education often competes with other basic needs. Moreover, students

may not have dedicated study spaces, quiet environments, or a supportive home infrastructure to engage with online learning fully. In addition, many UNISA students are not first-language English speakers, and English is the language of instruction in the higher education sector. As a result, students struggle to meet the academic demands of higher education simply because their success is determined by their proficiency in English.

To address the inequalities created by socio-cultural issues as the very language used in higher education, a language-learning mobile application (called 'VocUp,' see Makoe & Shandu, 2019) was developed to assist students learn English vocabulary. Students were asked to download the app and access the link to practice English vocabulary. This solution is particularly important in distance education, where students often feel isolated from their teachers and peers. Although some students appreciate working alone, some feel that they need to interact with others. To facilitate social interaction, we use WhatsApp, a tool that that students are familiar with, to assist them with language learning. WhatsApp is used to provide a social atmosphere where students from different parts of South Africa came together to form learning communities in groups between six to twelve members. Building learning communities is rooted in the African principles of Ubuntu, where 'students place high value on themselves as resources to each other' (Makoe & Shandu, 2019, p.139) as they collaborate and assist each other in the learning environment. Through this process, students feel connected to each other through their experiences, even though separated by distance. The use of mobile technologies in facilitating learning in a communal way proved to be effective during the COVID-19 lockdown. People are empowered when their cultural practices are taken into consideration as they contribute and participate equally as peers.

Fraser's (1998, 2003) Social Justice framework refers to 'valuing other people's cultures, language and values' as a cultural dimension of recognition, whereby individuals are given respect and have equal opportunities. Recognition entails that 'everyone has an equal right to pursue social esteem under fair conditions of equal opportunity' (Fraser, 1998, p.4). A socially just education system is one that ensures diverse groups of people are recognised, to minimise disparities of digital access. It is therefore important to teach culturally relevant and responsive pedagogy (Marcovitz, 2022 & Mifsud, 2024). Because distance education principles are rooted in accessibility, openness, student-centredness, and flexibility it stands to reason that distance education institutions should invest in creating spaces for interaction to enable students to meet the academic demands of university learning, including the use of technological tools. These socio-economic and cultural realities directly affect students' academic performance, retention rates, and overall learning experience.

The Relational Perspective and Representational Dimension

The third perspective of Digital Divide theory is the relational perspective, which addresses the political imperative of society giving all people the right to participate in decision making (Van Dijk, 2000, 2017). The digital divide silences people by excluding them. Considering who is given a voice and who is not considered a part of the social system must be addressed (Fraser & Honneth, 2003). This need is much more urgent now in the era of high levels of technology, requiring both access and competency. People who know how to use digital technologies are likely to benefit more from their direct interaction with people who are in power, form diverse social networks, and become politically active in civic affairs (Van Dijk & Van Deursen, 2012).

The South African history of colonialism and apartheid has resulted in inequitable access to opportunities and resources for different races. The digital divide impacts heavily on those who have been systematically excluded from economic, social and political participation. Social injustices can only be dismantled if people are empowered to participate fully as equal partners in the education system. In South Africa, social justice is a goal that endeavours to ensure full and equitable participation of all its citizens (Van den Berg, 2021). Institutions such as UNISA, and other mega-universities around the world, are expected to drive the social justice mandate of ensuring that no student is left behind. It is, then, no surprise that the UNISA 2018 Policy on Open Distance and e-Learning focused on equitable access to technologies to remove barriers to access learning and provide student-centred, flexible learning. To reduce the costs of internet access, UNISA collaborated with telecommunication companies to provide zero-rated data access for students (Adeleye et al., 2024). Through this initiative students are provided with subsidised or complementary mobile data bundles, allowing them to access course materials, submit assignments, and participate in virtual discussions without prohibitive costs. In addition, partnerships with hardware suppliers have made affordable laptops and mobile devices available to students and staff. These efforts illustrate how providing access recognises an individual's right to participate in the learning community.

Future directions for digital inclusion at UNISA

UNISA's strategies for bridging the digital divide are multi-faceted, addressing both infrastructural and human capacity challenges. Through partnership with technology and mobile networks providers, UNISA offers zero-rated access to educational platforms and subsidised data packages for students. These initiatives aim to minimise the digital divide and ensure equitable participation in online learning activities. Another significant component of UNISA's digital infrastructure is its investment in cloud computing and data storage solutions, which allow the university to handle large volumes of student data securely while ensuring scalability and reliability. To ensure

students who live in rural communities are supported, UNISA has also invested in regional access centres, and providing ongoing capacity building initiatives for students and staff. The university has made significant strides in ensuring equitable access to digital education by collaborating with local government agencies, non-profit organisations, and community leaders to advocate for better digital infrastructure in underserved areas. The university has also invested significantly in technology to ensure that its systems are resilient, scalable, and capable of supporting the demands of modern higher education in a digital era. By highlighting the importance of digital access for educational success, UNISA has contributed to broader national and regional efforts to close the digital gap.

Despite these advancements, challenges persist in maintaining and upgrading digital infrastructure. Financial constraints, the rapid pace of technological change, and the need for continuous staff training present ongoing hurdles. In addition, system downtime and technical glitches occasionally disrupt learning experiences, emphasising the importance of constant monitoring, maintenance, and innovation in infrastructure management. Investments in digital infrastructure at UNISA extend beyond hardware and software, because they encompass human capital. As a mega-university, UNISA's digital systems and infrastructure play a pivotal role in facilitating teaching, learning and administrative operations. As a proxy for the global situation, UNISA's experience offers valuable lessons for other mega-universities navigating similar challenges in bridging the divide. However, designing online teaching programmes that reach students who reside in limited-resource environments remains a challenge.

Copilot summary

This chapter explores the transformative role of technology in expanding educational access at the University of South Africa (UNISA). It highlights the use of Digital Divide and Social Justice theories to address systemic barriers and socioeconomic disparities. The document discusses UNISA's innovative technology solutions, such as mobile-based learning and zero-rated data access, to reach geographically dispersed students. It emphasises the importance of creating inclusive and equitable educational environments to dismantle systemic inequalities and enhance lifelong learning opportunities, particularly in African contexts where there is a growing demand for higher education.

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CHAPTER 1.4

Mega-universities: for and against

Tian Belawati



“Ultimately, then, mega-universities represent a transformative approach to higher education that prioritises accessibility, cost-effectiveness, and innovation. Their strengths not only address current educational challenges but also pave the way for a more inclusive future in global education.”

Mega-universities, as defined by Daniel (1996), are those higher education institutions enrolling more than 100,000 students. These institutions have emerged globally, particularly in regions where traditional brick-and-mortar universities cannot accommodate the vast numbers seeking higher education. According to Daniel, mega-universities emerged as responses to growing global demands for accessible higher education. Traditional campus-based universities faced limitations due to geographical constraints and limited capacity. The advent of modern telecommunications enabled the creation of televised lectures and, eventually, virtual classrooms, allowing mega-universities to expand their reach exponentially.

The concept of mega-universities began to take shape in the late 20th century, driven by technological advancements and the need for massive higher education solutions. Mega-universities leverage advanced communication technologies to deliver high-quality educational experiences remotely, overcoming geographical barriers and reducing costs compared to traditional institutions. Their main method of operation is distance education, utilising innovative communication technologies to provide courses to large audiences. The operational frameworks of mega-universities often integrate elements of distance teaching, and substantial student enrolment figures, distinguishing them from smaller, more localized academic settings (Bozkurt, 2019). Establishments such as the Open University, United Kingdom (OUUK) spearheaded the open university movement, which paved the way for the change to inclusive and distance learning environments (Bozkurt, 2019; Ertürk Kılıç et al., 2023). Open universities are single-mode institutions that entirely apply a distance education system and method for

delivering their education programmes. According to Mishra & Panda (2025), there are about 78 open universities across the world.

A philosophy of ‘openness’ in education is at the core of both mega-universities and open universities, even if that term is not explicit (see Zawacki-Richter et al., 2020). This philosophy postulates that knowledge should be viewed as a public good, emphasizing equity and accessibility in educational opportunities (Bozkurt, 2019; Ertürk Kılıç et al., 2023). Their key features include strong relations with national governments, significant use of communication networks, integration with various higher education providers, cost-effectiveness, and complex systems designed for efficient material production and transmission (Ertürk Kılıç et al., 2023). Furthermore, the emphasis on inclusivity and accessibility has mitigated social and economic inequalities by providing opportunities for diverse populations to engage with higher education (Belawati, 2020).

Prior to the advent of the internet, open university services were offered to students via pre-produced printed materials (frequently supplemented with audio/video materials), in-person services including face-to-face tutorials, as well as pencil-and-paper examinations. This is why most open universities have a head office equipped with production and distribution facilities, uncommon for campus facilities in traditional institutions, as well as a network of regional offices or learning centres in the regions where they operate (Belawati, 2022). Indira Gandhi Open University (IGNOU), for example, has 56 regional centres, 11 recognised regional centres, and almost 2,000 learner support centres across India;⁹ the Open University of China (OUC) has 45 provincial branches and 3,735 study centres;¹⁰ and Universitas Terbuka of Indonesia (UT) has 39 regional offices, an overseas student centre, 70 learning centres, and around 1,000 learning group points (Belawati, 2022). Nowadays, the practice of open universities has shifted more and more toward online education as a result of the accessibility of the internet and the ongoing development of information and communication technology (ICT). Alongside the development of the internet are several new distance teaching universities, sometimes identified as ‘smart,’ ‘cyber,’ or ‘online,’ that were not founded as ‘open’ universities.

The current state of mega-universities

The rise of mega-universities has significantly reshaped educational practices worldwide, and not all mega-universities share an open university history. By offering flexible and streamlined programmes, these mega-institutions align well with contemporary societal expectations about university degrees; particularly flexibility, which is paramount in today’s fast-paced world (Gardner, 2019). Their massification strategies have lowered

⁹ <https://ignouadmissions.in/ignou-regional-center/> (accessed 4 August 2025).

¹⁰ <http://en.ouchn.edu.cn/index.php/about-v2/brief-introduction1> (accessed 4 August 2025).

costs while increasing accessibility, thereby supporting universal values such as equity in education (Belawati, 2020; Ertürk Kılıç et. al., 2023). Moreover, open and mega-universities have evolved over generations, each generation further leveraging advancements in ICT. From correspondence courses to teleconferencing, and now internet-based delivery models, these institutions continue to transform higher education through independent learning paradigms (Belawati, 2022).

No single source brings together a list of contemporary mega-universities in line with Daniel's criteria. However, by employing a variety of search techniques including ChatGPT, Copilot, and a standard Google Search, a list of universities enrolling 100,000 or more students is proposed; this matter invites further research. Since Daniel's 1996 study, when there were just 11 mega-universities, the number of mega-universities has grown, and their size has increased (see the Appendix to this book).

Although the Appendix is not a comprehensive list, at least 30 universities around the world have over 100,000 enrolled students each year.¹¹ Overall, around 38 million students benefit from these universities each year. Even though the method for counting the number of students varies, the overall volume shows the massive scale of the operations and services from this small number of universities which, on average, have close to half a million students each per year. Some six of the top ten universities by enrolment in the world are considered 'distance' universities, the balance being 'systems' of in-person provision across multiple campuses or colleges.¹² None of the colleges or campuses in university systems look to be individually 'mega' in size. Even though most open universities were founded before the internet era, the current state of practice is shifting more and more toward online education; and online education is frequently the entry point for those new mega-universities that do not have their roots in open education. Nevertheless, to serve all types of students, most mega-universities with an open university heritage continue to deploy more conventional distance teaching based on their previous generation delivery model. The movement toward digital and online education can be observed from the vast research interest around the use of ICT for various aspects of open university operations. Digital transformation across open universities can also be seen from the adoption of open educational practices such as Massive Open Online Courses (MOOCs) and Open Educational Resources (OERs). Open universities have evolved from being educational opportunities for people who otherwise would not have access to education into those

¹¹ Note that the list in the Appendix includes several disclaimers; it is far from easy to reliably ascertain the number of mega-universities as of August 2025. At least four giga-universities, each with annual enrolment exceeding 1,000,000 students, can be discerned.

¹² See [List of largest universities and university networks by enrollment - Wikipedia](https://en.wikipedia.org/wiki/List_of_largest_universities_and_university_networks_by_enrollment) | https://en.wikipedia.org/wiki/List_of_largest_universities_and_university_networks_by_enrollment (accessed 4 August 2025).

providing opportunities for all lifelong learners using cutting-edge technologies (Belawati, 2022).

The advantages of mega-universities

As student numbers indicate, mega-universities have become important players in global education. They provide distinct advantages and strengths that cater to the various needs of both countries and students. Society and nations both benefit greatly from mega-universities. Some of the main benefits include improved accessibility and inclusivity in education, greater flexibility in the learning system, enhanced support for lifelong learning, improved cost-effectiveness, improved integration and use of ICT, and enhanced quality standards.

Accessibility and inclusivity

Mega-universities have a wider reach than conventional universities, thus providing access to higher education for large populations including those in remote or underserved areas. This inclusivity is essential for advancing equitable access to education for everyone, irrespective of socioeconomic or geographic limitations.

Because of their size and reach, mega-universities play significant roles in national policies related to education. By providing mass access to higher education, mega-universities also contribute significantly to social mobility and economic development. Their link to government objectives bridges gaps between formal education and workforce requirements. More importantly, mega-universities increase the capacity of their host country's national higher education capacity, providing more inclusive higher education. In Indonesia, for example, UT had 671,967 students in 2024;¹³ on its own, it contributes around 2.61% of the 39.37% Indonesian national higher education participation rate (Brodjonegoro, 2024). This is an enormous contribution from a single university, considering that the remaining participation rates are contributed by over 4,200 other institutions: a mix of universities, institutes, academies, polytechnics of higher education, and others.

Flexible learning pathways

Mega-universities offer various modes of study and learning pathways, including course-based and programme-based educational offerings, blended and online learning modes, and full-time and part-time programmes, accommodating different lifestyles and commitments. These multiple learning pathways allow mega-universities to accommodate students from a variety of backgrounds and age groups. Within the framework of mega-universities, it is possible for institutions to have flexible learning

¹³ <https://www.ut.ac.id/ut-dalam-angka/> (accessed 4 August 2025).

systems that includes no time limits for studying, a no dropout policy, and academic policies that acknowledge prior learning (Belawati, 2022). These policies enhance the openness of the learning system. Some mega-universities also incorporate MOOCs into their formal instructional system, recognising achievement of these for credit purposes. One example of this is the Open University of China (OUC), which with its counterparts provides phenomenal learning opportunities in China. It was reported that as at by October 2021 there were more than 47,500 online courses being offered, attracting around 755 million students and learners from across society; of these students, MOOC credits were awarded to about 290 million (Open University of China, 2022).

Lifelong learning opportunities

Mega-universities' administrative and learning systems make it simple and feasible for adult learners to continue their study without compromising their primary responsibilities. Most mega-universities provide flexible learning options for working adults, entrepreneurs, and stay-at-home parents to further their education, promoting and facilitating lifelong learning for both professional and personal growth. This is very important because in this digital age, when the employment environment is changing quickly, there is a growing need for reskilling and upskilling. Due to most mega-universities not setting any limit on age students come from all walks of life, showing that learning can be truly lifelong. This is exemplified by the OUUK, which graduated Maureen Topleyat at the age of 81 years (Drubwell, 2017), and by UT in Indonesia which recently celebrated an 84-year-old graduate (Kompas.com, 2023). Lifelong learning opportunities are also the motto and goal of many open universities such as Korean National Open University (KNOU), which based its Charter on the philosophy of 'Lifelong intellectual development to all members of society, regardless of time and space, through advanced distance education' (Belawati, 2022, p. 4).

Cost-effectiveness

The incredible student volume of mega-universities brings economies of scale to their operations. The utilisation of distance learning technologies and mass production of educational materials allow mega-universities to offer lower tuition costs compared to traditional institutions. Daniel (1996, 2019) mentioned that the average cost per student per year at the 11 mega-universities studied in his book was \$US350, significantly less (being only 2.8% of) than the average cost per student per year of the 3,500 American universities serving only 14 million students at \$US12,500 per student, and smaller (this time at 3.5% of) than the average cost per student per year of 182 universities in the United Kingdom serving only 10,000 students. Although this cost comparison is very rough because it only combines the size of the budget divided by the total number of students (it does not consider differences in the context and learning design), this data inspired many countries to see the potential of distance education systems as a strategy for delivering education services to their citizens more efficiently. Using Daniel's

method of calculation, it is shown that the average annual cost for students attending UT in Indonesia in 2018 was approximately 4.3 million Indonesian rupiah, roughly 15% of the average fees that students at Indonesia's conventional face-to-face institutions must pay (Belawati, 2020). According to more current data from the OUUK, the cost per student is likewise substantially less than that of conventional universities. The average cost per student at other UK universities in 2022/23 was typically around £12,500 per year (Russell Group, 2025). The OUUK cost per student is £4,092 (for part-time students) and £8,184 (for full-time students) per year, a much more cost-effective rate.¹⁴

Technological integration

Technological integration is a cornerstone of mega-universities, where access, scalability, and flexibility are essential. All mega-universities leverage technology to support more than tens of thousands of students across each of multiple geographical locations and time zones. Currently, the Learning Management System (LMS) or Virtual Learning Environment (VLE) provides the backbone for their online education, providing asynchronous online learning tools that bring flexibility to both students and lecturers/tutors. Mega-universities use advanced and customised LMS platforms to provide a seamless, organised, and accessible learning experience. Typically, self-paced modules, automated assessments, and discussion forums are applied to scale education without compromising quality (Belawati, 2022). Many mega-university students, especially in developing countries, access course content through mobile devices. Mobile learning allows students to access materials, participate in discussions, and submit assignments via smartphones and tablets, making learning possible anytime and anywhere. The difficulties in assessing large student populations, often across multiple countries, are overcome using digital assessment platforms and proctoring technologies which facilitate secure online exams, allowing students to be evaluated fairly and rigorously.

Quality assurance mechanisms

Since their beginning, there has been scepticism of open universities because of the distance learning system they employ. These suspicions are also cast upon mega-universities. Open universities have always emphasised quality assurance as the foundation for their distance learning practices; mega-universities do as well. Quality itself can mean different things to different people. The primary concern in the early days of open universities was whether distance learning was as good as the in-person instruction provided by conventional universities. But, as the practice of open universities advanced, the question of quality has grown more complicated. It now encompasses a wide range of factors, including the quality of learning resources, assessments, student services, infrastructure, and, of course, graduates. Quality

¹⁴ <https://www.open.ac.uk/courses/fees-and-funding/> (accessed 4 August 2025).

assurance (QA) has always been a crucial component of any model used to implement mega-university systems. QA is often mentioned as the most frequently discussed ongoing issue for mega-universities. The first reason for this is that are systems is dynamic and so have to be adjusted to constantly evolving practices. As technology advances, so to do mega-universities' operating processes, necessitating adjustments to the quality indicators that must be observed. Over time, this dynamism results in a robust and comprehensive QA system that complies with globally recognised QA standards developed by numerous reputable organisations (Jung & Latchem, 2012). Mega-universities take QA extremely seriously, to the extent that the OUC quality assurance committee is chaired by the OUC President (Darojat & Li, 2022).

As summarised by Prasad (in Daniel, 2019), the *dharmā* (defined by Prasad as 'the principles that guide us to do the right things' [Daniel, 2019, p. 196]) of open universities centres on democratising education by broadening access and empowering learners to manage their studies, emphasising exit standards over entry requirements. Open education serves as a tool for social justice, particularly benefiting marginalised and resource-limited communities by allowing them to study remotely. Ultimately, then, mega-universities represent a transformative approach to higher education that prioritises accessibility, cost-effectiveness, and innovation. Their strengths not only address current educational challenges but also pave the way for a more inclusive future in global education. As these institutions continue to evolve with technological advancements and changing societal needs, they remain pivotal in shaping the landscape of higher education worldwide.

The challenges to mega-universities

Although mega-universities are widely acknowledged and accepted as leading the charge in providing access to higher education, they also face numerous challenges and scepticism that affect their viability and effectiveness.

Quality issues

The question of quality has always hovered uncomfortably just beyond the horizon. Initially, distance education was considered inferior to traditional classroom instruction. Over time, one of the most pressing challenges for mega-universities is maintaining quality standards; the rapid massification coming from more access gives question to the potential for compromise. For example, many open universities do not require tests for admission, which can lead to inadequate instruction and limited student participation. Research indicates that despite high enrolment numbers, the quality of education may suffer due to insufficient resources allocated for quality control measures (Ertürk Kılıç et al., 2023; Daniel, 2019). Mega-universities face higher pressure to prove their quality assurance and quality systems than do regular-sized universities. It is

therefore very important for mega-universities to develop or adopt a quality assurance framework and guidelines that inform a rigorous quality assurance system, and, in turn, standards and indicators.

Fortunately, there have been many national, regional, and international initiatives undertaken initiatives that have resulted in many quality indicators in the form of statements of best practice, such as those presented in Table 1.4.1.

Agency	Title
AAOU (Asian Association of Open Universities)	Quality Assurance Statement of Best Practices/Framework (2020) ¹⁵
ACODE (Australasian Council on Open, Distance and E-Learning)	Benchmarks for Distance Education and E-Learning (2018) ¹⁶
African Union	<ul style="list-style-type: none"> • African Higher Education Quality Rating Mechanism(includes distance education) (2007)¹⁷ • African Standards and Guidelines for Quality Assurance in Higher Education (ASG-QA) (2018)¹⁸
APEC (Asia Pacific Economic Cooperation)	Quality Assurance on Online Learning Toolkit (2019) ¹⁹
CoL (Commonwealth of Learning)	Open and Distance Learning Quality Assurance in Commonwealth Universities (2016) ²⁰
EADTU (European Association of Distance Teaching Universities)	Manual E-xcellence (Third Edition) (2016) ²¹
ICDE (International Council for Open and Distance Education)	Quality Assurance Guideline, and Quality models in online and open education (2015) ²²
NADEOSA (National Association of Distance Education Organizations of South. Africa)	Quality Criteria for Designing and Delivering Distance Education (Revised) (2017) ²³

Table 1.4.1: International quality assurance options for open and mega-universities Belawati, 2023; Jung et. al., 2011; Jung & Latchem, 2012)

¹⁵ <https://www.aaou.org/quality-assurance-framework> (accessed 4 August 2025).

¹⁶ <https://acode.edu.au/wp-content/uploads/2023/11/GuideD2.pdf> (accessed 4 August 2025).

¹⁷ <https://aqrm.aau.org/> (accessed 4 August 2025).

¹⁸ <https://www.africateaching-authorities.org/upload/African-Standards-and-Guidelines-for-Quality-Assurance-in-Higher-Education-ASGQA-2018-r1705418610.pdf> (accessed 4 August 2025).

¹⁹ https://www.apec.org/docs/default-source/publications/2019/12/apec-quality-assurance-of-online-learning-toolkit/219_hrd_quality-assurance-of-online-learning-toolkit.pdf?sfvrsn=85f4455b_1 (accessed 4 August 2025).

²⁰ <https://oasis.col.org/server/api/core/bitstreams/44b2266d-f415-4bf1-a13b-86253815b490/content> (accessed 4 August 2025).

²¹ http://e-xcellencelabel.eadtu.eu/images/E-xcellence_manual_2016_third_edition.pdf (accessed 4 August 2025).

²² <https://www.icde.org/wp-content/uploads/2023/01/icdequalitymodels22.pdf> (accessed 4 August 2025).

²³ <https://www.nadeosa.org.za/documents/6697a58c1da3c.pdf> (accessed 4 August 2025).

While such guidelines and standards have a variety of formats and components, they cover many key areas of quality assurance that have been consistent over time.

Many mega-universities develop their quality systems with reference to the frameworks, guidelines and standards they consider most relevant to them in their countries. At the OUUK for example, following the UK QAA (Quality Assurance Agency), the overall responsibility for quality assurance and enhancement resides with the Pro Vice Chancellor (Students), supported by the Academic Quality and Standards team. At UT, where systems are based on the AAOU and ICDE quality models, quality assurance is overseen by a dedicated Quality Assurance Centre that works very closely with units across the entire university, under the supervision of the Vice Rector for Academic Affairs. At UT, quality assurance is ‘a delicate process with the internal quality audit functioning to establish awareness, good attitudes and confidence in QA and to ensure that people work in compliance to guidelines and procedures’ (Zuhairi et.al., 2020, p. 308). To bring about continuous systematic improvement, quality assurance at UT works to develop a quality culture across the institution, which also assures public confidence. At Allama Iqbal Open University (AIOU, in Pakistan) the quality assurance system is based on the Commonwealth of Learning’s guidelines, with external assessment conducted by the Pakistan Higher Education Commission (Zuhairi et al., 2020).

Student retention and engagement

Another critical challenge to mega-universities is student retention. The open admission policies that attract large numbers of students can also lead to high withdrawal or discontinuation rates for various reasons. Even though most mega-universities tend not to use the term *dropout* (because withdrawing students are welcome to come back to their studies at any time), the low rate of student persistence is still very concerning. Many students enrolled in mega-universities may feel isolated or lack the necessary academic skills to succeed in a distance learning environment. Studies have shown that without adequate support systems, such as mentoring or peer interaction, students are less likely to complete their courses (Hou, 2023; Daniel, 2019).

Simpson (2013) found that the graduation rates in distance institutions (open universities) were only between 0.5-20%, compared with more than 80% for full-time education in the UK. He suggested that one reason for that low retention rate was that institutions have focused too much on the provision of teaching materials, especially online, and too little on motivating students to learn. Tait (2018) pointed out that students in open universities who study part-time and at a distance face more difficulties than do full-time students and identifies specific factors that influence student persistence in the open university model typical to mega-universities. According to a Commonwealth of Learning report based on 27 open universities within the Commonwealth, only 15.26% of students complete university in any given year with a

qualification (cited in Wong & Li, 2019). The OUUK was reported to have the highest rate at around 50%. These figures suggest significant student attrition.

Assessment

The challenges for assessment include issues of scale and student authenticity, which also leads into discussion around Generative Artificial Intelligence (GenAI).

Implementing large-scale assessments in mega-universities presents several significant challenges that can reflect upon the quality and effectiveness of educational evaluations. Prior to the advent of online assessments, mega-universities had to cope with the logistical challenges of setting up multiple examination locations simultaneously across a wide region of a nation. Creating and distributing secured exam sheets, organising pencil-paper exams, marking exams, and returning results required sophisticated and secure academic and managerial procedures. To give some idea of the challenge, at one stage every semester UT organised in-person examinations in no less than 752 locations in about 560 cities simultaneously throughout Indonesia. The UT Centre for Examination in 2024 reported over 24,300 exam classes, producing about 1.8 million examination response sheets to mark. At this massive scale, multi-layered quality assurance procedures and systems are necessary to guarantee the academic credibility of the assessment. Some of the complicated logistical issues are now resolved in the digital age, but issues with expansive online assessments persist because of the sheer scale involved. At UT, where online examinations do not yet replace all in-person examinations, no less than 1.1 million student papers needed to be set up for the first semester in 2024.

The rise of GenAI complicates things yet further. GenAI can provide personalised learning experiences, which is excellent; however, deploying this across large assessment volume requires careful planning. When GenAI is permitted in assessment, care must be taken so that evaluations are fair, clear, and reflect individual student skills rather than simply being the result of technology (Ratanasukhon, 2024). Universities frequently utilise tools like Turnitin to combat plagiarism by reviewing student work against massive databases to identify potential cheating. As mega-universities address these concerns, they must also consider how GenAI will alter their traditional assessment techniques. Unfortunately, there is at time of writing a lack of empirical literature addressing this important topic.

Related to this is ensuring student authenticity in assessment. Essays and assignments, which still remain major assessment tools, are now risks to academic integrity because they can be completed with the help of GenAI. The development of proctoring technologies continues to advance from random photo captures during exams, to key systems that include voice recognition, among other parameters. However, according to Jordan (2014), the privacy and invasive surveillance raise most troublesome ethical questions.

More recently, GenAI-powered proctoring solutions such as Rosalyn²⁴ deploy facial recognition and behavioural analysis while students take their exams, seeking to boost the security of remote assessments. According to Brighteye Ventures, the ongoing evolution in technology is accompanied by major scepticism over its effectiveness (Brighteye Ventures, 2024). While GenAI helps in identifying irregularities in the behaviour of candidates during proctored assessments, the more important concern is the questions raised about privacy and the potential for false positives. A balanced approach is needed whereby mega-universities integrate proctoring technologies with strong academic standards and ethics. As in the treatment of large-scale assessment above, we need more empirical literature investigating effective practice.

The role of GenAI

The emergence of AI and GenAI technologies offers both challenges and opportunities for open universities. On the one hand, these technologies promise to enhance educational delivery by providing personalised learning experiences and adaptive support systems, such as tailored feedback for students based on their performance. Such improved pedagogical methods will enhance the overall teaching and learning experiences and will likely lead to higher engagement as well as outcomes (Fadzil & Munira, 2008; Wang & Li, 2024). On the other hand, the use of GenAI must be approached cautiously. In general, AI applications in higher education can be said to cover four major areas: profiling and prediction, assessment and evaluation, adaptive systems and personalisation, and intelligent tutoring systems (Zawacki-Richter et al., 2019). There is wonderful potential here.

Although many GenAI tools are already familiar to some mega-universities in developed countries such as the OUUK, Holmes (as cited in Xiao, 2024), observes there is very little evidence of benefits for almost all applications of GenAI in education at scale, and it is not known yet whether GenAI in education has a critical role or not. There is a pressing need for empirical evidence demonstrating that GenAI can effectively enhance educational quality without compromising integrity or accessibility. Experts emphasise that while AI has transformative potential, its integration into open education must be grounded in rigorous research and ethical considerations (Xiao, 2024).

Technological dependence and inequity

While technology plays a crucial role in delivering education at scale, it also presents challenges. Mega-universities often depend heavily on technology for course delivery and administration. However, disparities in access to technology can create inequities among students, particularly in developing regions where internet access is limited. This situation was highlighted during the Covid-19 pandemic when many institutions had to

²⁴ <https://www.rosalyn.ai/> (accessed 4 August 2025).

pivot quickly to online learning; those lacking adequate infrastructure faced significant hurdles in delivering quality education (Cunha et. al., 2020; Hou, 2023).

The digital divide remains a critical issue for mega-universities, as students from lower socio-economic backgrounds may struggle more than their peers to access the necessary technology for online learning (Bates, 2022; Cunha et al., 2020). This divide not only affects retention but also enrolment rates, as students with poor technology access face ongoing challenges in engaging with course materials effectively. According to a recent survey conducted in Indonesia (Belawati & Daryono, 2024), access to technology was regarded the most problematic element for high school graduates for pursuing independent online learning. The survey asked grade 12 high school students to rate their readiness to pursue independent online learning after graduating from high school. The readiness scale used as the questionnaire consisted of six dimensions, one of which was 'access to technology.' With these findings in mind, full online learning could potentially marginalise some of the target students of UT.

Institutional identity crisis

Mega-universities often grapple with an identity crisis as they attempt to balance their mission of accessibility with the pressures of becoming more like traditional universities. This duality can dilute their original purpose and lead to confusion about their role in higher education. Critics argue that if these institutions continue striving for conventional university status without addressing their foundational principles of openness and flexibility, they risk losing their unique character and appeal (Ertürk Kılıç et al., 2023; Daniel, 2019).

As an example, UT, as Indonesia's first distance learning institution, had a long struggle to establish itself across the many regulations and laws pertaining to education that are based on traditional campus-based higher education. One of the stated objectives when UT was established by the Government was to 'reach the unreached' student body (Indonesia Central Government, 1984). So, UT was created as an inclusive, flexible, and affordable university. The fundamental academic and operational framework for implementing these characteristics naturally included policies like open entry and open exit, no dropout status, no term limits to study, and no entrance exam for admittance. These policies, however, did not adhere to university standards at that time, which led to a poor accreditation status and a public perception that UT's education was inferior and second-class. Fortunately, most laws and regulations are now compatible with UT's system as the result of persistent advocacy efforts.

Competition from other educational models

The rise of alternative educational models, including Massive Open Online Courses (MOOCs), MOOC-based degree programmes, micro-credentials, and conventional universities adopting online formats, together pose a competitive threat to mega-

universities. As these alternatives gain popularity and credibility, they challenge the unique value proposition of traditional open universities. For instance, during the pandemic, many conventional universities successfully transitioned to online learning platforms, thereby eroding the competitive advantage that open universities once held (Degang, 2021). Despite this, universities still maintain market value and leverage over online platform-based providers because MOOCs and MOOC-based programmes are typically not appropriate for courses that require hands-on experience, including learning that involves interactions with machinery, instruments, animals, and people. More importantly, potential employers do not yet widely and globally recognise and accept degrees issued by MOOCs (Ong & Grigoryan, 2015).

So, as mega-universities face increasing competition from traditional universities that are also adopting advanced technologies, they must leverage GenAI strategically to reclaim their unique position in the educational landscape. This includes not only improving operational efficiencies but also enhancing pedagogical methods to ensure high-quality educational experiences for all learners (Brighteye Ventures, 2024).

Concluding remarks

The emergence of mega-universities and associated growth of open universities has significantly transformed the landscape of higher education, providing unprecedented access to learning opportunities for diverse populations. By leveraging advanced communication technologies these institutions have successfully expanded their reach, allowing millions of students, particularly those in remote or underserved areas, to pursue higher education. The philosophy of openness at the core of these institutions emphasises equity and accessibility, ensuring that knowledge is treated as a public good. As a result, mega-universities have become pivotal in addressing social and economic inequalities, enhancing educational participation rates, and supporting lifelong learning.

However, mega-universities are facing challenges as the digital era continues. The challenges are correlated with the advancement of technologies, including emergent GenAI. Issues related to quality require thoughtful integration of GenAI, especially in terms of student authenticity and large-scale assessment. Although there is immense potential for the tools to improve educational outcomes and operational efficiencies, mega-universities must focus on ethical considerations and empirical validation as to the efficacy of technology. By doing so, mega-universities can navigate the complexities of modern education while remaining true to their foundational mission of accessibility and inclusivity.

In conclusion, though mega-universities and open universities do face some competition coming from MOOCs and dual-mode institutions, they remain highly relevant players in global education. How well they adapt to the continuous

technological developments and changing needs of students will determine their future successes. It is through this struggle for continuous improvement in educational quality while maintaining and improving student access that mega-universities can increase their relevance. The core mission of mega-universities, to make education inclusive for all, endures. Mega-universities (and smaller open universities) must continue to innovate, implementing new ideas and continuing cooperating with others in the search for ways of responding to multiple user needs in an increasingly digital world.

AI statement

This paper has been written with the aid of several generative AI tools including ChatGPT, Perplexity, and QuillBot for outlining, literature searching, and paraphrasing (versions as at November, 2024).

This use was made clear to the editor before submission.

Copilot summary

This chapter discusses the concept of mega-universities, which are higher education institutions enrolling over 100,000 students. These universities leverage advanced communication technologies to provide accessible, cost-effective, and innovative education, primarily through distance learning. They play a significant role in promoting inclusivity, flexibility, and lifelong learning. However, they face challenges such as maintaining quality, student retention, and technological dependence. The document highlights the transformative potential of mega-universities in addressing global educational challenges and their ongoing evolution with technological advancements.

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Author profile

Professor Tian Belawati has dedicated nearly 40 years to the field of Open and Distance Education (ODE), building a distinguished career in research, teaching, and administration. Her most notable role was serving as Rector of a large-scale open university from 2009 to 2017, during which she led the institution's transformation into a modern ODE provider, with Information and Communication Technology (ICT) becoming the foundation of its academic and operational systems. Under her leadership, the university experienced a significant enhancement in quality and innovation.

Professor Belawati has played a pivotal role in various international ODE movements, earning global recognition. She was President of the Asian Association of Open Universities (AAOU) from 2009 to 2010 and of the International Council for Open and Distance Education (ICDE) from 2012 to 2015. She also served on the Board of Directors of the Open Education Consortium (2017-2019), the ICDE Board of Trustees (2017-2020), and the ICDE Control Committee (2021-2024). Additionally, she has made significant scholarly contributions as Chief Editor and editorial board member for several national and international journals.

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CHAPTER 1.5

Managing mega-digital systems at the AIOU



Kamran Mir, Ana Elena Schalk, Geraldine Gray & Muhammad Zafar Iqbal

“Mega-universities operate in a very different technical environment from traditional institutions.”

The concept of mega-universities, those institutions serving more than 100,000 students annually, has evolved significantly since Daniel introduced the term (Daniel, 1996). Today, mega-universities operate at scales demanding fundamentally different approaches to technology infrastructure, content delivery, and user support compared to nearly 30 years ago. Modern mega-universities must navigate complex and rapidly evolving technical ecosystems while maintaining educational quality and accessibility. The technical bottlenecks that emerge at mega-scale are often invisible to traditional campus-based institutions, requiring innovative solutions that balance performance, cost-effectiveness, and educational outcomes.

Daniel’s foundational work on mega-universities emphasised that advances in technology, described as ‘knowledge media,’ were key to a new form of open university capable of providing scalable access to quality education (Daniel, 1996). Daniel argued that the solution to issues of access in higher education was not to extend the classic correspondence model, but to leverage technology to add a more dynamic, networked dimension to education. This vision remains central, as mega-universities today continue to adapt to rapid technological change and increasing demands for inclusivity and scalability.

Mega-universities face critical technical infrastructure challenges, including the need for scalable, robust digital platforms, reliable connectivity, and sustainable solutions to support massive student populations and complex educational operations (Zawacki-Richter & Jung, 2023). This chapter describes how a Learning Management System (LMS, called elsewhere a Virtual Learning Environment or VLE) is made available for over one million students at Allama Iqbal Open University (the AIOU). Drawing from a decade of operational experience, the copater presents a comprehensive framework

addressing the five key dimensions of infrastructure architecture optimisation, student support through integrated digital interfaces, systematic faculty capacity building for technology adoption, streamlined content development workflows, and learning analytics implementation for enhanced institutional decision-making.

At the time of writing, the wide adoption and usage of Generative Artificial Intelligence (GenAI) models, particularly ChatGPT, has sparked a surge in research exploring their potential applications in the educational landscape (Chiu, 2024). Recent studies highlight the evolving role of GenAI models in education, outlining both the benefits and challenges of integrating such technologies into large-scale learning environments (Bozkurt et al., 2023; Chiu, 2024). These findings empower educators, researchers, and policymakers to make informed decisions about the integration of GenAI technologies into learning environments, a consideration that is increasingly relevant for mega-universities seeking to balance quality with scalability.

There are several unique technical bottlenecks mega-universities may encounter that smaller institutions do not face, such as robust cloud infrastructure, load balancing and Content Delivery Networks (CDNs). Practical strategies that provide robust operations within resource constraints are essential, providing leaders with adaptable approaches that also support educational innovation at unprecedented scale. We draw on insights derived from a decade of experience at the AIOU, where technical solutions were developed to address the distinct challenges of serving a massive student population across diverse geographical and technological contexts.

The AIOU in Pakistan has successfully managed technical operations for over 600,000 students per semester, by applying systematic approaches to infrastructure design, process automation, and capacity building. The strategies used can be filtered into generic frameworks applicable across different learning management system platforms and technological contexts.

Defining scale in educational technology

Mega-universities operate in a very different technical environment from traditional institutions. While a conventional university might support 10,000 to 30,000 users across multiple systems, mega-universities drawing from the AIOU example must accommodate concurrent user loads that can exceed 8,000 to 15,000 simultaneous connections, with a daily active user base reaching over 50,000. The infrastructure requirements for serving such a volume require more than simple user scaling. Content storage demands can reach more than 35 terabytes per semester, requiring distributed storage architectures and content delivery networks that can handle massive file transfers while maintaining performance across diverse geographical regions.

Research indicates that mega-universities face distinct technical challenges at scale, such as those below:

System load management

When the number of simultaneous users surpasses the foundational design limits of both commercial and open-source platforms, traditional load balancing strategies often prove inadequate (Hussain et al., 2025). This challenge is particularly evident among the world's largest open universities. As they are predominantly reliant on open-source solutions, these large institutions often avoid privately owned cloud services. This is particularly the case for the majority that are publicly owned. Consequently, they are tasked with the unique challenge of managing and scaling their digital infrastructure internally, setting them apart in their approach to accommodating massive user demand.

Content distribution

The immense scale and diversity of educational content managed by mega-universities necessitate the development of specialised workflows systems that far surpass the capabilities of conventional content management approaches. Standard solutions, designed for more modest volumes and uniformity, simply cannot accommodate the complexity, breadth, and dynamic nature of resources required at this level (Gao et al., 2025). As a result, mega-institutions must adopt advanced, purpose-built processes to effectively organise, curate, and deliver their vast educational offerings.

Communication complexity

The arrangement of communication channels for an audience numbering in the high hundreds of thousands necessitates a level of automation and built-in redundancy far beyond the requirements of smaller institutions (Sclater, 2008). Only complex, self-sustaining systems can ensure reliable, timely, and consistent engagement capabilities that are seldom demanded, or even imagined, by organisations of more modest scale.

Data processing scale

The demands placed upon learning analytics and reporting systems by mega-universities extend far beyond the capabilities of traditional database architectures. The ability to ingest, process, and analyse data at a scale that routinely surpasses the design assumptions of conventional solutions is a necessity. As a result, institutions must turn to innovative, purpose-built data infrastructures capable of accommodating the vast, heterogeneous datasets they generate (Faenza et al., 2024).

The AIOU as a mega-university case study

Allama Iqbal Open University ranks among the world's leading providers of distance education, enrolling more than 600,000 students each semester in both undergraduate and postgraduate programs. Established in the 1970s as Pakistan's first open university and formerly named the 'People's Open University,' the AIOU serves diverse student populations across geographical regions with varying technological infrastructure and digital literacy levels. The university's technical infrastructure supports multiple delivery modes including distance and blended learning, and face-to-face workshops. Together, these require flexible systems that can accommodate different pedagogical approaches while maintaining a consistent user experience.

Prior to implementing systematic technical improvements, the AIOU faced several critical challenges that are common across mega-universities (and likely across most others, as well):

Infrastructure limitations

Single-server architectures could not handle peak loads during enrolment periods and examination seasons, leading to system failures and user frustration.

Manual process dependencies

Administrative workflows relied heavily on manual intervention, creating bottlenecks that scaled poorly with increased user volumes.

Communication gaps

Reliance on single-channel communication systems (primarily SMS) led to delivery failures, and inadequate user support.

Limited analytics

The absence of comprehensive data collection and analysis capabilities hindered evidence-based decision making, and early intervention for student support.

Five key dimensions for technical management at scale

Providing services for massive student numbers takes some planning, and careful alignment. There are five key elements for ensuring a balanced, well-rounded technical implementation; these considerations are infrastructure architecture, student interface, faculty capability, content workflows, and learning analytics.

Infrastructure architecture optimisation

The foundation of mega-university technical operations lies in scalable infrastructure design that can accommodate exponential growth, while maintaining performance and reliability. Benke & Widger (2023) highlight the importance of robust, adaptable infrastructure in supporting open and distance learning at scale. These principles are essential for mega-universities, where infrastructure must support not only high user volumes but also diverse learner needs and continuous innovation. There are three main components to infrastructure architecture optimisation: server distribution and load balancing, database architecture and clustering, and storage and content delivery.

The AIOU approach to server distribution and load balancing involved implementing multiple server instances with functional separation. Distinct environments were established for assignments, workshops, face-to-face sessions, and overseas programmes. This separation allows for targeted optimisation and prevents single points of failure that could affect the entire system.

The load balancing implementation of the AIOU accommodates over 10,000 concurrent users through automated distribution algorithms, which route traffic based on server capacity, user location, and functional requirements. This approach proves essential during peak usage periods such as enrolment deadlines, online workshops and quiz assessment periods.

Database clustering emerged as a critical component for managing the scale of user data, course content, and transaction logs. Rather than relying on single database instances, the AIOU implemented clustered database architectures with read/write separation and geographic distribution. This clustering approach enables horizontal scaling, where additional database nodes can be added dynamically based on load requirements. This architecture supports the massive data volumes generated by hundreds of thousands of active users while maintaining query performance and data consistency.

With content storage requirements reaching 35 terabytes per semester, traditional file storage approaches proved inadequate. The solution to this involved implementing distributed storage systems with content delivery network integration, to ensure efficient content distribution across geographical regions. Limiting the assignment file size to 5MB was one of the practical steps taken to make this possible.

Automated content workflows handle the ingestion, processing, and distribution of educational materials, reducing manual intervention and ensuring consistent availability across all delivery channels.

Student support through integrated digital interfaces

Supporting hundreds of thousands of students requires systematic approaches that combine automation with human intervention at appropriate facility points. Figure 1.5.1 shows how the online support system acts as a hub for all student-facing functions, including the public-facing website, written applications to study, and support requests via email, phone, and walk-in.



Figure 1.5.1: AIOU student support system (Mir, 2017)

The limitations of single-channel communication became apparent early in the AIOU's growth experience. SMS delivery issues, incomplete contact information, and limited message length created significant gaps in student communication. The solution involved implementing integrated communication platforms that combine SMS, mobile applications, and web-based messaging through app notifications. The redundancy evident across these options ensures that critical information reaches students through multiple channels, while providing fallback options when primary channels fail.

Comprehensive self-service capabilities are also in place to reduce the burden on human support staff. This enables students to resolve common issues independently. The AIOU implemented integrated portals that provide access to academic records, course materials, scheduling information, and basic technical support. The self-service approach includes searchable knowledge bases and guided troubleshooting workflows, which can resolve a significant percentage of support requests without human intervention.

The geographic distribution of mega-university student populations also requires regional support structures that can provide localised assistance while maintaining consistency with central policies and procedures. The AIOU's model includes regional centres equipped with technical support capabilities and direct communication channels to central IT operations.

Systematic faculty capability building for technology adoption

The success of technical systems at mega-scale depends heavily on user adoption and effective utilisation by faculty members who may have varying levels of digital literacy. The AIOU's experience is that over-estimating faculty digital literacy leads to significant implementation challenges. Our solution involves implementing formal assessment processes that evaluate faculty technical skills before system rollout. These assessments identify specific training needs and ensure that faculty members have foundational skills necessary to use technology effectively. This approach prevents system deployment in environments where users lack the basic competencies for success.

Rather than ad-hoc training sessions, mega-universities require systematic faculty development programmes that provide structured learning pathways with measurable outcomes. The AIOU intends to develop modular training programmes that progress from basic digital literacy, through to advanced pedagogical technology applications. This certification approach is designed to ensure accountability and recognition for faculty members who achieve proficiency milestones. This creates incentives for participation, while also establishing clear expectations for technology adoption.

Large-scale faculty development benefits from peer support structures put in place to provide ongoing assistance beyond formal training programmes. Experienced faculty members serve as mentors to colleagues, creating sustainable support networks that reduce dependence on central IT staff. These networks also serve as feedback channels for identifying system usability issues and improvement opportunities that might not be apparent through formal reporting mechanisms. While rolling out the quiz training programme, for example, the 'Train the Trainers' concept was implemented to encourage faculty to support their peers on quiz development and implementation on LMS.

Technology adoption across mega-universities requires ongoing development, rather than one-time training events. The AIOU integrated technology skills development into broader professional development frameworks, ensuring that faculty capabilities evolve with system enhancements and new feature deployments.

Streamlined content development workflows

Recent research (Aad & Hardey, 2025; Monib et al., 2024) highlights the exponential growth in GenAI research in education, with tools like ChatGPT emerging as dominant platforms for content creation and curriculum design. The integration of GenAI into content development workflows offers promising directions for automating routine tasks, enhancing curriculum design, and supporting longitudinal studies that track learning outcomes over time (Dickey & Bejarano, 2024). However, transparent AI models and addressing potential biases are critical for sustainable adoption (Bozkurt et

al., 2023). Managing content development at mega-scale requires systematic workflows that ensure quality, consistency, and efficient production while accommodating the diverse needs of multiple academic programmes.

Content development for mega-universities must balance standardisation with flexibility to accommodate diverse academic requirements. The AIOU developed a template-based design processes that provides a consistent structure while allowing customisation for specific programme needs.

The planning phase of content development includes stakeholder mapping, resource allocation, and timeline management that accounts for the review and approval cycles necessary in large institutional environments. Standardised workflows reduce development time and ensure consistent quality across different academic departments.

AAGHI²⁵ is the name given to the AIOU LMS. The term ‘AAGHI’ is derived from an Urdu word meaning awareness, knowledge, or cognition. This platform serves as the central e-learning interface for AIOU, facilitating the management and delivery of course materials, online workshops, assignments, and interactive learning activities for a large and diverse distance learner population. The AAGHI Management and Custom Reporting (AMCR) is an internally developed platform at AIOU, designed to integrate the university’s AAGHI LMS with the broader Campus Management System. AMCR offers a unified dashboard interface for IT administrators and teaching staff, enabling standardised content publishing, automated user and course management, seamless data reporting, and real-time system monitoring. This integration supports the efficient administration and continual quality assurance of educational processes at scale (Mir et al., 2024).

Manual content production processes become serious bottlenecks at mega-scale particularly in institutions like the AIOU, which manages digital learning for over one million students annually. To streamline this complex ecosystem, the AIOU implemented automated workflows at multiple stages of the content development and delivery pipeline. These workflows primarily addressed the capture, standardisation, enhancement, and distribution of digital instructional content used within the AAGHI LMS. The automation of this workflow allowed for significant operational efficiencies, for instance, importing a structured course template or quiz set into thousands of course shells with just one action via the AMCR dashboard. In the absence of such a system, this process would have required manual uploads per course, with high likelihood of errors, delays, and pedagogical inconsistency across departments.

Quality assurance automation includes technical validation (confirmation of file formats, accessibility compliance, metadata completeness) and basic content review (spell checking, broken link detection, document format consistency). This automation

²⁵ See <https://aaghi.aiou.edu.pk> (accessed 4 August 2025).

enables human reviewers to focus on pedagogical and academic quality, rather than technical compliance issues.

With multiple stakeholders contributing to content development across large institutional environments, version control becomes critical for maintaining content integrity and enabling collaborative development. The AIOU's approach includes automated versioning systems, which track changes, maintain approval workflows, and enable rollback when issues are identified. Change management processes ensure that content updates are communicated effectively to all stakeholders and that dependencies between related materials are maintained consistently.

Content distribution at mega-scale requires automated systems that can handle simultaneous access by thousands of users, while maintaining performance and reliability. The AIOU developed automated distribution workflows that prepare content for multiple delivery channels and ensure synchronisation across distributed storage systems. The automation includes scheduling capabilities that enable content releases to be coordinated with academic calendars and course progression schedules, reducing manual coordination overhead.

Learning analytics implementation for enhanced institutional decision-making

Data-driven decision making becomes essential at mega-scale, because intuitive management approaches cannot adequately address the complexity of large user populations and diverse programme requirements. The use of analytics in large-scale digital learning environments must be underpinned by robust institutional infrastructures that guard against algorithmic bias, ensure equitable access to insights, and comply with evolving data governance standards (Benke & Widger, 2023; Prinsloo, 2023). In practice, this means mega-universities must not only invest in technical tools and predictive models but also prioritise ethical frameworks that guide how such data is collected, interpreted, and acted upon.

The AIOU intends to implement learning analytics insights which focus on early identification of students at risk of academic failure or withdrawal. Predictive models analyse user behaviour patterns, academic performance indicators, and engagement metrics to identify students who would benefit from additional support. The predictive approach enables proactive intervention rather than reactive support, improving student outcomes while optimising resource allocation for student services (Herodotou et al., 2020; Khan et al., 2018).

Mega-university operations require real-time visibility into system performance, user engagement, and academic progress. The AIOU developed comprehensive dashboard systems (such as the AMCR mentioned earlier) that provide stakeholders with current information about key performance indicators relevant to their roles. These dashboards and screens serve different user communities: technical staff monitor system

performance; academic administrators track enrolment and progress metrics; and faculty members access student engagement and performance data for their courses.

The scale of mega-university operations makes manual monitoring of student progress impractical. Automated early warning systems analyse student behaviour patterns and academic performance to identify situations requiring intervention. These systems generate alerts for academic advisors, technical support staff, and faculty members when students exhibit patterns associated with increased risk of failure or withdrawal, enabling timely support interventions.

Lessons from the AIOU experience

There are several lessons that might be highlighted from the AIOU approach, related to technical architecture, process considerations that benefit the university, and strategic and governance insights. The AIOU also has a generic framework for developing solutions at scale, and some observations about scalability to pass on to other mega-universities.

Technical architecture insights

The AIOU experience reveals several critical insights about technical architecture decisions that affect mega-university operations, including the following:

- Manual processes that function adequately at smaller scale become critical bottlenecks at mega-scale. Early automation of high-volume administrative processes is essential for sustainable operations.
- Single-channel communication systems are inadequate for mega-scale operations due to reliability issues and the diversity of user preference. Multi-modal communication approaches are necessary for effective user engagement and redundancy, for example, using SMS notification, email notifications and mobile app notifications to get important messages to students.
- Regular stress testing under simulated peak conditions is essential for identifying capacity limits *before* they impact user experience during critical periods, such as enrolment peaks and assignment submission deadlines.

Organisational and process considerations

Beyond technical considerations, the AIOU's experience highlights organisational matters that significantly impact successful technology implementation at scale:

- Ambiguous responsibilities and decision-making authority create operational chaos at mega-scale. Clear documentation of roles, responsibilities, and escalation procedures is essential for effective operations.
- Informal policies and procedures that rely on institutional knowledge do not scale effectively. Comprehensive documentation and regular training on documented

procedures are necessary for consistent operations. A good way of facilitating this is through the recording of screen recording videos for technical processes, for example demonstrating how a quiz is attempted or how an assignment is uploaded.

- Technology implementations at mega-scale require structured change management approaches that address user resistance, training needs, and communication requirements across diverse stakeholder groups.

Strategic and governance insights

The mega-university environment requires strategic approaches that differ from traditional institutional technology planning:

- Infrastructure planning must accommodate two to three times initial capacity to provide adequate headroom for growth and peak usage periods. Incremental scaling approaches often prove inadequate for mega-university growth patterns.
- The scale of mega-university operations requires careful evaluation of vendor capabilities and support structures. Open-source solutions may require internal development capabilities that many institutions lack.
- Data privacy, security, and regulatory compliance requirements become more complex at mega-scale, due to the volume of data processed and the diverse regulatory environments that may apply to distributed student populations.

Based on the AIOU's experience and analysis of successful implementations at other mega-universities, a systematic four-phase approach emerges as optimal for institutions seeking to implement comprehensive technical management frameworks (Figure 1.5.2). The standard process can take up to two full years to move from an initial solution assessment through to an implementation robust enough for further development.

The four stages, with timeframe estimates, are:

1. Phase 1: Infrastructure foundation (1-6 months).
2. Phase 2: System integration (7-12 months).
3. Phase 3: Capacity building (13-18 months).
4. Phase 4: Optimisation and advanced features (19-24 months).

These timeframes assume a clear brief, a dedicated team of required expertise, and good stakeholder engagement.

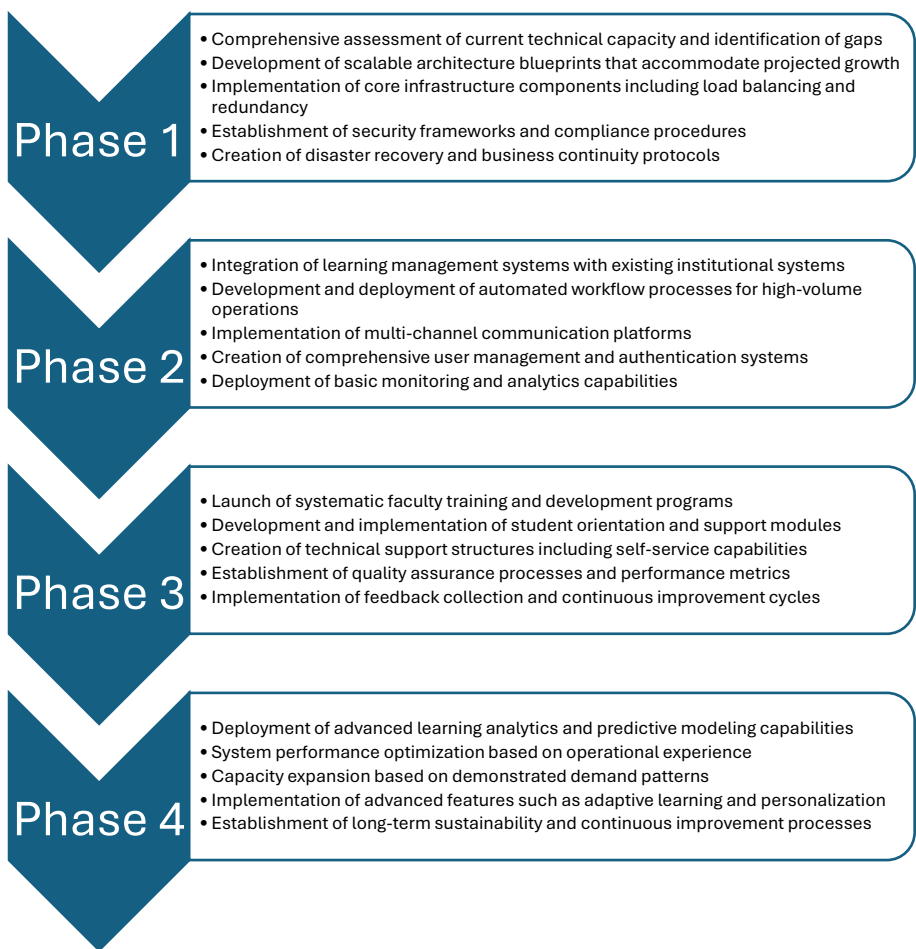


Figure 1.5.2: Generic framework for technical management at scale

The framework must address scalability across multiple dimensions simultaneously according to clear requirements, based on standard use analytics. Scalability must be sufficient to cater for immediate peaks such that users do not notice the additional strain their individual efforts might be placing on infrastructure. Table 1.5.1 provides the example of the AIOU’s approach.

Metric	AIOU Scale	Technical Solution	Scalability Factor
Concurrent Users	8,000	Load balancing with auto-scaling	10x
Daily Active Users	28,000	Distributed architecture	5x
Storage per Semester	35 TB	Cloud storage with CDN	Unlimited
Video Conference Instances	25+	Scalelite ²⁶ load balancer	Linear
Database Instances	Multiple	Database clustering	Linear
Total Enrolment Capacity	600,000+	Automated enrolment systems	2x

Table 1.5.1: Load planning and scalability at the AIOU

Digital infrastructure must accommodate user growth, content volume increases, and feature expansion without fundamental architectural changes. Administrative processes and support structures must also scale proportionally with user growth, without needing an increase in staffing requirements at the same rate. Ultimately, cost structures need to remain sustainable as operations scale, requiring a careful balance between infrastructure investment and operational efficiency.

Both educational quality and the user experience must be maintained, even improved, as scale increases. The lens of systematic quality assurance and improvement processes must be run over every technical or digital change. Mega-university technical operations face several categories of risk that require proactive mitigation strategies; the following are recommended:

²⁶ See <https://github.com/blindsidenetworks/scalelite> (accessed 4 August 2025).

- Implement auto-scaling capabilities and load balancing with sufficient headroom to accommodate unexpected usage spikes. Regular stress testing under simulated peak conditions helps identify capacity limits before they impact users.
- Deploy redundant backup systems with geographic distribution and regular recovery testing. Automated backup verification and recovery procedures ensure ongoing data integrity and availability.
- Establish multi-layer security architectures with regular penetration testing and vulnerability assessments. Of course, compliance frameworks must address applicable privacy regulations and institutional policies.
- Design systems with loose coupling and standard APIs²⁷ to minimise vendor lock-in and facilitate future system changes. Regular compatibility testing during system updates prevents unexpected integration failures.

Recommendations for mega-universities

Mega-university leaders should prioritise comprehensive technical infrastructure planning that addresses the unique challenges of large-scale educational operations. This includes allocating sufficient resources for robust technical infrastructure, that can accommodate growth projections with adequate headroom for unexpected demand spikes; investing in comprehensive training and development programmes for both technical staff and end users, recognising that successful technology implementation depends heavily on user adoption and competency; establishing comprehensive documentation standards and maintaining current documentation for all critical processes, recognising that informal knowledge transfer approaches do not scale effectively; and implementing comprehensive monitoring and analytics capabilities from the beginning of systems deployment, enabling data-driven decision making and proactive issue identification.

Across all of these initiatives, and in support of new ones, mega-universities are best to implement new technologies and processes in limited pilot environments before full-scale deployment, allowing for refinement and problem identification in controlled settings. Early implementation should also focus on efforts aimed at automating high-volume manual processes that create bottlenecks at scale, even if the immediate benefits seem modest. Systems redundancy should also be considered as critical systems and processes are designed, from the beginning, rather than seeking to add these reactively after problems occur.

Finally, mega-universities should build flexible digital architectures and processes that can accommodate the inevitable future changes in technology, regulations, and institutional requirements.

²⁷ Application Programming Interfaces.

Managing technical solutions at mega-university scale requires systematic approaches that address infrastructure, processes, people, and governance simultaneously. The AIOU case study demonstrates that, with careful planning, phased implementation, and continuous optimisation, institutions can successfully serve many hundreds of thousands (and more) of students while maintaining educational quality and accessibility.

The framework presented in this chapter provides a foundation for mega-universities seeking to develop or enhance their technical management capabilities. However, successful implementation requires adaptation to local contexts, regulatory environments, and institutional cultures. The key principles of scalable infrastructure design, process automation, comprehensive capacity building, streamlined workflows, and data-driven decision making, provide a foundation that can be customised for different institutional requirements.

The challenges facing mega-universities will be ongoing as technology advances and educational demands change. Institutions that invest in robust technical management frameworks will be better positioned to adapt to these changes, while fulfilling their mission of providing accessible, quality education at unprecedented scale. The lessons learned from pioneering institutions like AIOU provide valuable guidance for the broader mega-university community as these institutions continue to expand their reach and impact.

Success in managing technical aspects at mega-scale ultimately depends not just on deploying appropriate technology, but on creating organisational cultures that embrace continuous learning, systematic problem-solving, and evidence-based improvement. Mega-universities that achieve this integration of technical excellence with institutional adaptability will serve as models for the broader transformation of higher education in an increasingly digital world.

Copilot summary

Mega-universities must prioritise robust technical infrastructure, comprehensive training, documentation, and proactive monitoring to manage large-scale operations. Implementing pilots, automating bottlenecks, and building flexible, scalable systems are key. Systematic approaches integrating infrastructure, people, processes, and governance, all tailored to local contexts, enable adaptation to change and ensure educational quality at scale. Continuous learning, problem-solving, and organisational adaptability are essential for sustainable success in a rapidly evolving digital education landscape.

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Section Two:

MEGA-UNIVERSITY STRATEGY

CHAPTER 2.1

Re-thinking mega-universities for the future

Sanjaya Mishra



“The initial social and technological contexts that turned open universities into mega-universities are still in play. It is clear that distance education methodologies that leverage technologies for teaching and learning remain central to improving the reach of higher education.”

Since ancient times, human civilization has given immense significance to higher learning. Ancient universities such as Nalanda (India) and Taxila (now Pakistan)²⁸ demonstrate how knowledge was perceived, acquired, and disseminated. In medieval times, the University of Bologna (Italy) emerged as a centre of excellence in higher learning, separating universities from their link to religious studies. Modern universities serve as centres of creative thinking, innovation, research, and knowledge transfer. They contribute to national productivity and economic growth (Valero & Van Reenen, 2019). Studies show that, on average, the social return on investment in higher education is 10.5%, while the private return accrued to individuals is 15.8% (Psacharopoulos & Patrinos, 2018). Research also evidences a ‘graduate premium,’ indicating that those with a university education have higher earnings than those with only a secondary education (Janzen et al., 2022). In OECD countries, the difference can be as high as 56% (OECD, 2024). In Ontario, Canada, university graduates earn over \$CAD3,000 more per month compared to high school graduates (Council of Ontario Universities, 2017).

There is an ongoing, increasing demand for higher education reflected in data from UNESCO (2022), which indicates that global enrolment in higher education increased from 100 million in 2000 to 235 million in 2020. However, there is a massive gap in the gross enrolment ratio in sub-Saharan Africa (at 9%) and Europe and Northern America

²⁸ The universities of Nalada and Taxila in ancient India were centres of higher learning in Buddhist teachings, logic, politics, economics, yoga and health sciences, catering to the elites of the time in fifth century BC.

(at 79%). Alternative ways to increase access to affordable higher education beyond the reach of campuses are essential to equity and inclusion. Historically, open universities demonstrated that distance education methodologies and appropriate technologies can improve access at a lower cost (Rumble, 1997). For many universities operating in face-to-face teaching and learning, distance education created additional opportunities for broader access to higher education. Distance education primarily paved the way for the working class and those who had challenges accessing universities to receive higher education. In 1996, Sir John Daniel identified 11 universities with enrolment of more than 100,000 and coined the term mega-universities. Broadly admitting that the threshold of a hundred thousand is arbitrary, Daniel (1996) also focused on distance teaching and higher education (emphasising graduate enrolment). Bozkurt (2019) proposes the existence of giga-universities, that is, those having more than one million students (such as Anadolu University). More mega-universities have grown into giga-universities since Daniel's work, but it is important to rethink these ideas and symbols from the perspective of contemporary relevance. Even when Sir John Daniel published *Mega-universities and knowledge media*, there were concerns about the feasibility and suitability of such institutions:

Now that all universities are exploring the possibility of teaching at a distance, some argue that large institutions dedicated solely to distance teaching are no longer necessary. Others argue that because of their size and their commitment to industrial methods, the mega-universities will not be nimble enough to survive in a post-industrial age. (Daniel, 1996, p.32).

Almost 30 years later, this chapter explores re-thinking mega-universities and envisioning the future of such universities. However, before focussing on re-thinking some important points need to be made. First, the idea of mega-universities has its origin in distance education; many open universities were included in the list by Sir John Daniel. However, not all open universities were able to become mega-universities despite their advantages. Second, while open universities were largely public in early days, today's mega-universities are not necessarily public. Nevertheless, ideas discussed in this chapter focuses on all institutions recognising education as a public good, which the mega-universities of the future are best to promote.

Features of mega-universities

According to Daniel (1996), a common feature of mega-universities is their use of technologies for distance education. Keegan (1986), while defining distance education using an analytic frame, also emphasised that technology-mediated teaching and learning is a crucial feature. It is important to note that many mega-universities were named open universities because they wanted to shift away from the focus on the use of broadcast technologies of that time (see Dorey, 2015, p. 257; Weinbren, 2015),

though the objective was to increase access to higher education and provide a ‘second chance.’ Daniel (1996) noted that the success of mega-universities was not solely the use of technology; several other issues that contributed to the mega-universities’ growth and success were also disclosed. It is essential to understand these as the basis for speculating about the future of mega-universities.

Roles in national policy

Mega-universities were originally established by national policy (usually in the form of ‘open’ universities) to increase access to higher education and serve as a democratising force in national development. So, increasing access is an explicitly defined role, providing early mover advantage while also demonstrating cost-effectiveness.

Access to communication facilities

The governmental patronage received by the initial open universities provided access to significant communication infrastructure. For example, The Open University, United Kingdom (OUUK) had access to the British Broadcasting Corporation (BBC) for course material production and televised lectures, and the Indira Gandhi National Open University (IGNOU) had access to the national television channel (Doordarshan), which later provided a dedicated channel for education. The Korea National Open University (KNOU) and the Chinese Radio and Television University (now the Open University of China) also had access to substantial national communication facilities from the beginning.

Operational systems

Broadly, mega-universities traditionally have two major operational sub-systems: learning materials, and learner support. Peters’ (1998) analysis focused on the industrialisation of education at a distance and the division of labour as key operational strategies, with specific departments within a system working in tandem to drive results. Industrialisation is a key feature of mega-universities that led to economies of scale, increased efficiency and competitive advantage.

Linkages to other higher education institutions

Mega-universities are independent entities that collaborated and depended on other higher education institutions in their host country. For example, IGNOU was established as the apex body of distance education in the country (although this status has now changed), and the KNOU was established as a junior college within an existing university. At one point, the OUUK awarded degrees to 50 campus-based tertiary institutions (Daniel, 1996). In most cases, courses were developed with the support of academics from other higher education institutions and delivered with the support of part-time tutors. So, the operational efficiency of mega-universities, where it existed, was at least in part due to dependency on conventional higher education. Mega-universities also

contributed as a national publisher of quality learning materials, often used by students in other universities.

Nature of the student body

The student body of mega-universities was a reversal of typical demand, ranging from primarily working adults to school leavers. The common element was their need and aspiration to acquire higher education.

Curricula

Contrary to the traditional roles of the university, mega-universities offered more courses with vocational orientation to support the demand in the job market or provide teacher training, aligned with government need and direction. Offering programmes beyond graduate degrees also helped open institutions increase their demand to become mega-universities.

Daniel (1996) alluded to the role of mega-universities in research and the proven cost-effectiveness of mega-universities, noting in particular their lower unit cost per student compared with conventional universities (though the figures are not clear whether they relate to cost per enrolment or cost per graduate). While the cost per learner is usually demonstrably lower in mega-universities, the cost per graduate requires more analysis.

It is important to appreciate the social and political contexts behind the emergence and establishment of these universities. Why, in the first place, did these mega-universities receive support from governments of the time, and why were they so popular with the public at large? While each open university had their specific contexts, we can identify some common trends:

- High demand for access to tertiary education.
- A need to provide second-chance opportunities for the working class to acquire higher education
- A desire to support the education of the disadvantaged, including women,
- the imperative of delivering more skilled human resources for national development.
- The availability and use of relevant, accessible technologies (such as print, radio, and television).
- Supporting a social justice framework for equity and access.

Social and technological contexts

The initial social and technological contexts that turned open universities into mega-universities are still in play. It is clear that those distance education methodologies that

leverage technologies for teaching and learning remain central to improving the reach of higher education. There are three core reasons why mega-universities have historically succeeded.

First, the establishment of the first mega-universities was *rooted in the societal needs of the times*, with appropriate support from governments. However, despite the increased access to education through open universities, the demand for higher education is now higher than ever with global overall enrolment ratio at 42% with ‘large differences between countries and regions’ (UNESCO, 2025, para 3). For example, in a country like India, the Gross Enrolment Ratio (GER) in the age group of 18-23 is 28.4% (Ministry of Education, 2024); the government of India aspires to have 50% GER by 2035 (Ministry of Human Resource Development, 2020). To achieve this goal, the public and private sectors must establish more campus-based institutions. Distance and online learning can certainly help as well, either through dedicated open universities (which may become mega-universities), or conventional universities increasing access through online or blended learning.

Second, in pursuit of their social justice objectives, *mega-universities adopted available technologies for teaching and learning to suit the needs of learners*. While they used both one-way and two-way interactive technologies (Bates, 2005), print technology was predominant, ensuring equitable access. Non-print media and technologies were used mainly for supplementary or complementary purposes, and occasionally, audio and video materials were integrated into the printed text. Stand-alone use of non-print materials in teaching and learning, for example the use of radio, which was both highly affordable and easily accessed, was limited.

The technological landscape of the contemporary world is now dramatically changed. Access to the internet and mobile networks has improved, and most open universities find it convenient to extend their education model online. Historically, printed learning materials were supported by various learner support mechanisms such as face-to-face contact sessions and telephone calls, to improve interaction. Organising interaction sessions was challenging and costly and often featured a local centre presence. The transition to online delivery facilitated rethinking about such study centres and regional footprints. However, even with the benefits of going online, it is essential to keep in mind the issue of equity and access. Despite steady access to the internet globally, only 27% of people in low-income countries have access (International Telecommunication Union, 2023). During the Covid-19 pandemic, issues related to poor internet access and technology further exacerbated the challenges faced by disadvantaged students due to the closure of schools (Korkmaz et al., 2022). Even in developed countries like the United States, students struggled with limited internet access during the pandemic (Gierdowski, 2021). The cost of broadband data access is yet another issue with further implications for students in online learning.

Third, *the competitiveness of the mega-universities was due to their efficiency*. The model of operation that provided flexible learning opportunities for anyone aspiring to join higher education was based on economies of scale. However, technology has made these economies of scale more accessible to all universities, and the experiences gained during the Covid-19 pandemic have led to more institutions offering online programmes. In addition, there is a growing trend in the unbundling of higher education (Czerniewicz et al., 2023), micro-credentialing degrees and courses (Selvaratnam & Sankey, 2021) and platformisation of higher education using Massive Open Online Courses (MOOCs) (Amiel, 2024).

From a policy perspective, countries are also relaxing regulatory constraints for online universities. For example, Korea has 21 cyber universities (Lee & Lee, 2024), and India has formulated regulations for online learning (University Grants Commission, 2020). The national-level monopoly of the early mega-universities over distance and online education has changed due to developments in technology and proven educational methods, which provide more flexible options for learners to learn from an increasingly diverse group of providers. The opportunities to stack micro-credentials and earn credits from multiple universities also offer learners a wide range of options. A recent report on open universities in the Commonwealth indicated a decrease in enrolment in comparison to data in 2017 (Commonwealth of Learning, 2023). It is evident that universities dependent primarily on distance teaching methods have lost their advantages and competitiveness. Innovation is now essential for survival (Tait, 2018).

In this contextual background, the next section of this chapter discusses the possible futures of mega-universities.

Future mega-universities

‘Thirty years from now, the big university campuses will be relics.’

Peter Drucker, in Lenzner & Johnson (1997).

I start this section with a quote from Peter Drucker to indicate that predictions are made at their peril; even international experts get things wrong! We are influenced by our past experiences and limited by our imaginations. However, some speculative papers about the future of universities (Bayne & Ross, 2024; Mishra et al., 2024) play an important role for evaluating what might come. For example, Bayne & Ross (2024) provide eight different scenarios of universities influenced by current social, economic, climate change, and technological progress. The scenarios reflect speculation in the form of suggested future narratives, some utopian and others dystopian; the ‘Extinction-era universities,’ ‘AI academy,’ ‘Enhanced enhancement’ and ‘Justice-driven innovation’ concepts are described in some detail.

Thinking critically about the future involves applying specialised conceptual tools. Sardar and Sweeney (2016) present the ‘three tomorrows’ framework to visualize the future for any organisation.

1. *Black Elephant*: this scenario is the result of ignoring problems that lie before us, because we have neither the resources nor leadership capabilities to handle them. Under this scenario we simply seek to avoid the issues that will create the future. For existing open universities, declining enrolment could be such a black elephant.
2. *Black Swan*: a ‘black swan’ is an unthinkable scenario that appears out of the blue. Such scenarios could have a high impact in both negative and positive ways. For universities (including mega-universities), the emergence of generative artificial intelligence (GenAI) is an example of a technology that will have a significant effect on teaching, learning, and assessment.
3. *Black Jelly*: this scenario looks normal and unproblematic, but a minor change in one element of a system suddenly brings in a dramatic and disruptive environmental change. The ‘Fees Must Fall’ movement in South Africa (Cini, 2019; Czerniewicz et al., 2019) was such an example of creating disruption.

University leaders need to apply strategic foresight tools when considering the future of their institutions. The three metaphors of the future presented here are plausible in their application to mega-universities. Another approach is to envision the future of mega-universities by applying three future orientations (Bell, 1998):

1. *Preferable future* – refers to a more desirable state providing equitable, affordable, and quality education to all.
2. *Probable future* – that is more likely to happen based on current trends, indicating towards a growing trend of online learning and use of GenAI.
3. *Possible futures* – something visionary or utopian.

I prefer to envision the mega-university of the future using an eclectic frame that includes the three futures of Bell (1998), which leads me to portray the future through several characteristics and actions. Before explaining these characteristics, it is important to emphasise that to face the global challenges before humanity we must rethink universities beyond teaching and research to be more resilient, innovative, entrepreneurial, authentic, and ecological (Barnett, 2011). All universities ought to demonstrate flexibility to accommodate these features. It follows, then, that the definition of a mega-university based on 100,000 graduate enrolments may also need to be revisited. Size may be less important than orientation.

Multi-modal operation

The mega-university of the future will not be a single-mode distance teaching university. The mega-university of the future is a multi-modal institution offering programmes and courses at different levels serving the needs of the learners globally. To survive competition, the university must be relevant to its purpose. Being multi-modal means that single programmes could be available in multiple modes, allowing the learners to

decide the best way to access the programme and courses most suitable to their personal contexts. The University of South Pacific, a regional university with campuses in twelve countries, is one such university with multi-modal operation across its various operations.

Open to anyone, anywhere

The mega-university of the future will provide equitable learning opportunities to anyone, anywhere. While multimodal approaches can provide anytime learning, no one must be left behind due to unaffordability, physical disability, or locational disadvantage. Though the issue of cost is an altruistic aspiration, the mega-universities of the future could develop innovative mechanisms to provide access to education to those who do not have the means. For example, the University of the People (United States) offers tuition-free education and charges mostly very low assessment fees. Some programmes offered by the mega-university of the future may also have zero fees and recover operational costs once the student is gainfully employed. Thus, the university can collect regular income from its alumni across 20 to 30 years. Multi-modal operations will also enable the university to recruit learners from anywhere in the world.

Open curricula

Universities provide both education and certification. Thus, they perform dual roles. In recent years, new ways of certification have emerged, especially for skills, with new certification agencies at the national level. For many professional qualifications, a professional body does the assessment, while the teaching happens elsewhere. So, separating the teaching and assessment functions will be more visible in mega-universities. For teaching, the new universities will have more flexible curricula to offer, where the learners may design the qualifications to suit their needs. Many company-sponsored management training programmes have arrangements to create curricula that meet their specific requirements. Such universities will be agile in catering to the needs of individual learners.

Open admission and open assessment

The mega-universities of the future will have open admission, allowing anyone to do a course of study anytime. Many MOOC platforms already follow such a practice. Also, several universities follow the process of recognition of prior learning and use bridging courses to facilitate open admission. Mega-universities will also provide walk-in admission, or its virtual equivalent. Similarly, students will be able to decide when to appear in a test to demonstrate the achievement of the learning outcomes and graduate attributes and even choose how they would like to be assessed from several options. For example, for doctoral degrees, there are two routes in many universities: thesis and publication. The practice of proctoring will give way to these new forms of evaluation and demonstration of mastery.

Technology-mediated

No university today operates without applying technology in some way. In the future, universities will depend more on technology for administrative and academic functions. But the role of a human teacher will continue to be there unless some Black Swan event in the future change the entire social and cognitive processes. Learning is a social process, and it must continue to be so for ethical and humanistic reasons. I am not inclined to discuss the implications of technology tools (e.g., GenAI tools), which eventually ‘become us’ (Mishra, 2023) in the long run. The mega-universities of the future as social organisations will be agile and adapt technology tools that are relevant and appropriate with due consideration for the human values of the time. A future technology currently under testing is Elon Musk’s ‘Neuralink’ (Fiani et al., 2021), which may enable the creation of new cognitive embedded technology to implant chips on the human brain and further support the new university of the future.

These visions are futuristic and are rooted in my positionality as a researcher and teacher of distance and online learning, serving the global agenda for sustainable development. From my perspective, the future mega-universities will be entities that adopt normative principles for democratic and equitable access, adopt innovative practices and technologies, focus on environmental sustainability, and carry out teaching and research at scale. Such universities will need the support of the government, private sectors, philanthropic and non-governmental organisations, and their regional communities to survive. So, a symbiotic relationship will exist between the university, the student body, and the society they serve.

The mega-university of the future, I believe, shall be a ‘feasible utopia’ which must meet the criteria of adequacy:

- (i) feasibility itself, (ii) scope (the potential to open itself to different angles, spaces and perspectives), (iii) emergence (the powers of an entity to go on developing amid the exigencies that present themselves), (iv) temporal flexibility (the capacity of an idea to play itself out in different timeframes), (v) locale (having meaning locally, nationally and globally), and (vi) wellbeing (having an intent to improve the world in some way) (Barnett, 2019, p.69).

Life in a mega-university in 2045

Real-time collaboration is a complex system made up of an intricate web of training providers in multiple locations worldwide, connected through sophisticated networks. Each node is independent of the others but is connected to deliver quality learning for all. Students learn using various options available to them and take ownership of their learning, guided by teachers and teaching assistants of their choice (human or machine-

assisted). The students are autonomous in designing their curricula and the nature of assessment for certification. The university is a resource centre that facilitates learning. Teachers are researchers who also teach groups of students on campus who come for specific purposes. Learning resources are digital and available in multiple formats according to the need of the programme or the discipline. The student is not worried about the cost of education, and there is an abundance of free access to learning materials. They engage in collaborative learning and connect knowledge and skills to solve problems. Tests are, by and large, authentic and experiential. Graduate attributes focus on the big picture to prepare learners for the future and their well-being.

The university is both a physical space and a cloud. It is also available in every learner's hand, irrespective of their learning mode. They are not concerned about the cost of education and can opt for the deferred payment scheme and focus on learning per se. The mega-university in 2045 is also a place for recreational learning for adults, along with skilling and improving national economic growth.

Copilot summary

This chapter explores the evolution and future of mega-universities. It highlights the historical significance of distance education and the role of mega-universities in providing accessible higher education. The chapter discusses the features that contributed to the success of mega-universities, such as technology integration, national policy support, and operational efficiency. It also envisions the future of mega-universities, emphasising multi-modal operations, open curricula, and the use of advanced technologies to ensure equitable and quality education for all.

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CHAPTER 2.2

Mega-universities 2.0: ‘Strategic Reset’

Don Olcott, Jr.



“Strategic Reset is far more important and complex than just increasing digitisation and revising strategic plans. It is the deliberate choice by university senior leadership to take the reins of change and reframe their institutions within the context, culture, and communities of their geographic footprint.”

Are mega-universities guaranteed a secure position in the 2030 global higher education ecosystem? This chapter presents a conceptual framework for leading a strategic reset for expanding mega-university leadership choices, with the opportunity to reframe institutional mission, identify key strategic priorities, and formulate priority synergies. The issues and strategies presented in this chapter apply to mega-universities, open universities, and dual mode institutions; however, they apply more to mega- and open universities for competitive positioning and differentiation.

Strategic reset is predicated on three primary assumptions. First, the institution has comprehensive digital capacity; second, the mega-leadership team has identified key strategic priorities; and, finally, that the national and global context provide the key driving forces beneath a focused strategy.

Many mega-universities and large open university leaders assume a future where they are continuing to embrace massification and scale, serving as many students as possible. Others argue that mega- and open universities are misaligned with the needs of students and employers; that some institutions scaled too quickly without commensurate quality and support systems; that national economic and workforce synergies are lacking; and that many face challenges around learner attrition, academic quality, mission clarity and funding stability. Despite these differences, mega-universities are likely to play an invaluable role in expanding access, promoting openness and inclusion, and supporting workforce development in developing countries.

Mega-universities have established a unique and innovative position in the higher education ecosystem. Some of these institutions emerged and thrived in the 1970s right

through to the Millennium (Daniel, 1996, Guri-Rosenblit, 2019; Paul & Tait, 2019). The future looked bright, and most leaders foresaw clear and smooth sailing for both mega-universities and the larger open universities as the new Millennium dawned. With thriving visionary leadership, expanded access, financial efficiencies, mass scaling, technological innovation, and unprecedented prestige, optimism was high. In the first few years of the 2000s, however, mega-universities and large open universities faced numerous challenges, primarily funding reductions and a competitive landscape that has made survival, rather than thriving, the common reality (Commonwealth of Learning, 2023; Kanwar & Mishra, 2023; Olcott, 2024, 2024a).

The most problematic issue facing mega-universities and, by extension, open universities, may be mission ambiguity and confusion (Paul & Tait, 2019). Leaders at most mega- and open universities tend to take for granted that key stakeholders and diverse publics clearly understand their mission and scope; but they do not. The truth is there is considerable confusion amongst potential students, political leaders, employers, accreditors, and even competitors. Many see mega- and open universities as all pretty much the same, with blurry rather than clear market position and differentiation (Olcott, 2024a, 2024b; Paul & Tait, 2019).

It seems easy to conveniently classify institutions as ‘mega-,’ ‘open,’ and ‘dual mode.’ However, this suggests that most institutions are easily definable, with clear missions and distinctive operational agendas. The problem with classifications is the rapidly shifting landscape and educational ecosystem since the mid-1990s, which created a void across institutions faced with uncertainty about their futures, their role in the higher education ecosystem, and confusion as to how to strategically reset and move in new directions aligned with their changing context. The result is a significant overlap of attributes and mission foci across mega-, open and dual mode institutions, as well as confusion amongst critical stakeholders. If we consider a broader classification of those institutions now involved in distance teaching that are neither ‘mega-,’ so with less than 100,000 students per year, and not self-described as ‘open,’ it is easy to see why confusion exists amongst potential students and key stakeholders.

Online learning emerged in the mid-1990s and would eventually transform dual mode institutions more than most mega- and open universities. This has created some key questions defining mega- and open universities today. Are most mega-universities in fact open universities, even though other open universities would not be classified as mega-universities? Are some dual mode institutions mega-, those with large campus-based populations, which go over the 100,000-student threshold when external distance students are also counted? Are many dual-mode institutions engaged in increasing distance teaching programmes, whilst at the same time retaining their campus-based focus?

Olcott (2024b) suggested the loss of the open university market position was due to the massive shift by dual mode institutions and new online providers to so-called 'online' delivery. This shift has created unprecedented new competition to mega-open universities. Early in the new millennium, most of the large mega-open universities were, and would continue to be, dominated by correspondence-based print models (Olcott, 2024a, 2024b). Online providers, though, were tapping the entire educational landscape and by-passed the print approach, which was becoming less and less appealing to students. Mainstream universities had shifted; if a student had a computer and good internet access, it brought them access, convenience, and flexibility.

The multi-complexity of the systems required for online teaching and learning, materials design and management create immense new challenges that simply were not present in print-based correspondence delivery. Learning design, communications, interaction models, technology requirements, assessment, and class discussions present a myriad of issues for online delivery (Olcott, 2024b). The mixed results of online implementation in response to the global Covid-19 pandemic lockdowns, including lack of training and support for faculty and students; poor digital and Learning Management System (LMS, or Virtual Learning Environment, VLE) infrastructure; and, most importantly, a failure of leadership (Olcott, 2023) were all predictable. The lack of real success demonstrated that quality online programmes are not a simple conversion from face-to-face or correspondence-based print models of delivery. This realisation, in concert with the aforementioned mission ambiguity and stakeholder confusion, has left mega- and open universities vulnerable. For historically based mega- and open universities, a strategic reset is required.

Mega-, open and dual mode institutions: a definitional enigma

Daniel (1996), in his seminal book *Mega-universities and knowledge media*, identified 11 institutions around the world as mega-universities. From this group, eight were open universities. The clarity of defining these different types of institutions is even more blurred today than it was then. Daniel defined 'a mega-university as a distance teaching institution with over 100,000 active students in degree level-studies' (1996, p. 29). Within the context or *Zeitgeist* of the 1990s, this definition made good sense in terms of higher education; many large open universities had grown to become mega-universities, most employing print-based distance teaching models with some having a more elaborate mix of lower-end technologies. The access mantra that evolved out of open university growth in the 1970s and 1980s was a catalyst for this scalable growth (Daniel, 2023).

Today there are many more mega-universities serving over 100,000 students annually, and all are employing various 'knowledge media,' better described today as educational technologies, for distance teaching. Many of these mega-universities are also open

universities, including the Open University, UK (OUUK); Anadolu University (Türkiye); Indira Ghandi National Open University (IGNOU, India); Universidad Nacional de Educación a Distancia (UNED, Spain); Universitas Terbuka (UT, the Indonesia Open University); the University of South Africa (UNISA); and many others. Conversely, there are many smaller open universities including Athabasca University (AU, Canada); Hellenic Open University (Greece); the Open University of Cyprus; and the Universitat Oberta de Catalunya (UOC, Catalonia, Spain). The degree of ‘openness’ across these institutions varies and is defined differently. Each has similar yet different characteristics, so clear, clean definitions of what constitutes a ‘mega-university’ and an ‘open university’ leaves potential students, and key stakeholders, confused about their mission and purpose.

What about dual mode institutions? As already discussed, the same issues and strategies for higher education practice apply to all higher education institutions. It is futile to try to differentiate strategic options based on poorly defined descriptions of mega-, open and dual mode institutions. The most important thing to remember about dual mode institutions is they never have, and never will, achieve the scalability and openness of open and mega-universities. And few, if any, dual-mode institutions are interesting in pursuing this. However, dual mode institutions face similar challenges as mega- and open institutions but suffer less from a broader mission ambiguity and confusion.

Dual mode institutions primarily serve campus-based and resident students; distance teaching is an auxiliary, adopted for multiple reasons that will include moderate student volume increases, more scheduling options for campus students, and responsive delivery for key corporate, government, and sister university partnerships. The majority of general public and dual mode institutional stakeholders understand that a dual mode university’s fundamental mission is centred on the campus, even though technology is used in many innovative ways. Descriptors such as ‘online delivery,’ ‘Smart Classrooms,’ and ‘hybrid models,’ are typically used.

The normative setting, values and climate of a particular era is often referred to as its *Zeitgeist*. The current *Zeitgeist* of 2025 and that at the time of Daniel’s (1996) description of mega-universities are very divergent. In 1996, the World-Wide Web (WWW) and internet were new, and online learning was emerging during a period when education quality and accountability were being accentuated by accrediting commissions and other oversight agencies. This oversight applied to both distance teaching and dual mode institutions. Increasing levels of focus on quality and accountability were gradual, and most students, employers, and institutional stakeholders still deferred to the academic mainstream of knowing what society needed from their universities. At this time, the 11 mega-universities identified by Daniel (1996) were at the top of their game and considered some of the leading innovators in open and distance teaching.

However, as we crossed the Millennium and up until now, mega- and open universities became complacent. Dual mode institutions moved to scale-up online, whilst historically mega- and open institutions continued to rely on print-based correspondence (Olcott, 2024a, 2024b, 2024c). The online modality was an effective model for access and scaling but was not as good for quality, interaction, or reducing transactional distance. The 'online' market ushered in mass competition and new providers, with more and more dual mode institutions delving into some of the niche markets previously tapped by mega- and open universities. Government agencies and employers began to cite the misalignment of university degrees with the graduates needed in the workplace (Paul & Tait, 2019).

Tuition fees increased, and student debt became a national crisis in many countries (most notably the United States). For the first time in the history of higher education, the public, students, and government officials openly questioned the value and purpose of a university degree. These winds of change have produced a new *Zeitgeist* since 2010, accentuating the mission ambiguity, confusion, and misunderstanding of what mega- and open universities do, how they do it, and the value they bring to the student, society and the nation. In sum, 2025 is not Aldous Huxley's 'brave new world' of higher education but is instead an ecosystem significantly different than what Sir John Daniel described for the mega-universities of 1996.

Again, the purpose here is not to differentiate between or provide clear, clean definitions of mega-, open and dual mode institutions. Debates between what is a mega- or open or dual mode institution could progress into eternity. It is much more productive for university leaders to be reminded that the mission, purpose, and value institutions bring to students, stakeholders, employers, government oversight agencies, and partners must be both clear and concise.

'Strategic Reset' defined

The higher education landscape post-Covid-19 creates a unique opportunity for all universities to shift direction, revise their mission, and re-envision their architecture for success. This process is called 'Strategic Reset' (McGreal & Olcott, 2022; Olcott, 2023, 2024a, 2024b; Brown et al., 2023).

Strategic Reset is far more important and complex than just increasing digitisation and revising strategic plans. It is the deliberate choice by university senior leadership to take the reins of change and reframe their institutions within the context, culture, and communities of their geographic footprint. Strategic Reset is defined as

...a systematic leadership process for university leadership teams to re-assess existing institutional teaching, research and service missions; explore new institutional directions, reconfirm strategic priorities, mission, resource allocations, digital

infrastructures, and retro-fit their institutions to be more agile, flexible, and adaptive to emerging trends and changing markets; stabilizing existing priorities and repositioning institutional capacity to pursue new priorities. Strategic reset is re- setting priorities – making choices – and taking actions to build competitive advantage, quality, and service for the future (Olcott, 2024a, p. 517).

McGreal & Olcott (2021) introduced the concept of Strategic Reset for universities as part of a research project investigating micro-credentials for AU. Strategic Reset was presented as a conceptual framework and means of synergy, aiming to consolidate the digitally linked functions of the university to be more effective across the opportunities apparent (for AU) in micro-credentials, online teaching and learning, and open content. The focus was on assisting senior leadership in universities applying a Strategic Reset toward institutional priorities. A grouping of two to four of these is labelled a Strategic Priority Synergy (SPS); note that the example in Figure 2.2.1 has three priorities.

STRATEGIC RESET FRAMEWORK

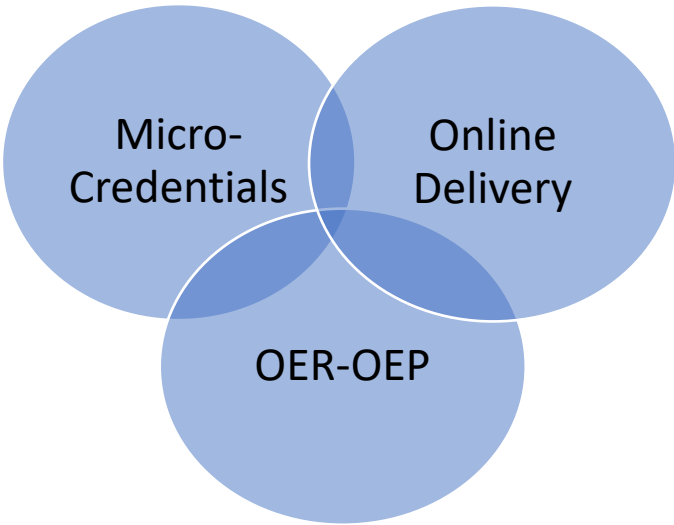


Figure 2.2.1: A sample Strategic Priority Synergy (SPS) (McGreal & Olcott, 2021, p. 33; Olcott, 2024a, 2024b)

Strategic Reset was briefly discussed in the research report for AU, and later in McGreal & Olcott (2022), and Olcott (2021). The concept is only recently published in detail, with an earlier diagram (see Figure 2.2.1), in Olcott (2024a; 2024b). In particular, Olcott (2024a) provides a conceptual framework for Strategic Reset describing complementary priorities open universities might focus on to give them a stronger institutional capacity.

Online Delivery, open content in the form of Open Education Resources (OER) and Open Education Practices (OEP), and Micro-Credentials in this example all have two salient characteristics in common. Firstly, they are all (or will be all) digitally based and so will continue to be designed around the broader digitisation in universities. Moreover, Generative Artificial Intelligence (GenAI) is a natural addition fitting within these digitally based priority areas (Olcott, 2024c). Secondly, these functions are interconnected and reinforce each other. As an example, micro-credentials and OERs can be leveraged for online delivery in the context of OEPs. SPSs are components of the broader strategic reset process, and leaders have many potential priorities to choose from to create additional strategic priority synergies.

Strategic Reset involves bringing together clear and complimentary strategic priorities relevant to mega- and open institutions, such as those identified for AU in Figure 2.2.1. Even once in place, the rapidly changing landscape will require open universities to continue to be adaptive and agile in responding to new challenges, competition, and trends. Strategic Reset takes time and planning to ensure that the synergies across key priorities compliment and reinforce one other.

Institutional leadership teams will have to assess their aggregate strategic priorities and determine how to create a practical synergy across them. Their ability to extend across other areas including university outreach, school to work transition programmes, and expanding partnerships must also be considered. Strategic Reset and digital transformation are as much about leadership as they are about technology. Government funding cuts, increasing tuition fees, and increased competition all lead back to the need for new sustainable funding models for most tertiary institutions.

Strategic Reset relies on effective leadership

An overview of related literature in leadership and change is essential when considering Strategic Reset. Burns (1978) equates transformational leadership with moral leadership, meaning it must serve the majority of the people in positive ways. Strategic Reset and the leadership of mega- and open universities can draw upon the leadership literature from several vantage points. Mintzberg (1975) was the precursor to Burns's seminal 1997 book *Leadership*, though Mintzberg's work focused primarily on management and not leadership.

Hersey and Blanchard (1977) formulated their theory of 'situational' leadership. The theory focuses on the situation and the role of people, versus the task and the maturity level of the followers or team. This is a very popular leadership theory, yet organisational members also need leaders they can understand and believe in when critical decisions are on the line. At the same time, followers may be reluctant to support leaders who frequently change strategy and leadership approaches. Followers need inspiring leaders

who bring both leadership and human qualities to empower the organisation (Olcott, 2023; 2024a).

Kotter's (2012) eight-step change theory is one of the most applied, having been employed across all types of organisations. Conceptually Kotter's steps are easy, but in practice it is a different story. The first step is to establish urgency (not panic) for change. The leader then brings together a leadership team to construct and build a viable vision for the organisation. The team then communicates and reinforces the vision to organisation members and all stakeholders by identifying short-term wins towards progress. Kotter's is a continuous change process involving constant refinement, shifts in focus, and dispensing with some ideas and bringing in new ones all along the yellow brick road of change.

In addition to the theories already discussed, care must be given to the context in which change takes place, which Schein (1985) calls 'organisational culture.' Culture consists of those shared values across an organisation that drives behaviours. It includes the *informal organisation*, described as 'how things are really done in this place.' This informal culture is seldom covered in written procedures, and one only truly learns these by being immersed in the culture from experience. It is this informal culture that presents the organisational reality that Strategic Reset must adjust; it is a complex web of leadership, change, culture, digital tools, and informal rules that define an organisation. There is no comprehensive blueprint all leaders must follow to implement error-free digital transformational and visionary leadership.

As far as leadership style is concerned, Lamond (2004) reminds us there is a difference between 'preferred' leadership style and 'enacted' leadership style. What does this mean? Most of us have a preferred set of attributes and affordances we like to infuse into our leadership style; the problem is that our complex world requires leaders to adapt, be agile, change direction, and make compromised decisions. What emerges is an *enacted* style of leadership that has overtaken one's *preferred* style. This is the real world; again, we see that Strategic Reset is ultimately about *leadership*. Reframing institutional priorities and adopting innovative strategies to meet those priorities relies on leaders stepping up.

Olcott (2024a) provides a thorough and insightful synthesis of some of the challenges to Strategic Reset cited by global leaders and practitioners from open universities. A brief summary of these included:

1. Building upon their massification and democratisation legacies (Kanwar & Mishra, 2023).
2. Stronger partnerships with the private sector (Guri-Rosenblit, 2019; Kanwar & Mishra, 2023).
3. A renewal to innovation, quality and retention (Paul & Tait, 2019; Guri-Rosenblit, 2019).

4. Greater openness and more access (Nichols, 2024).²⁹
5. Formulating alternative funding models and showcasing the diversity of open universities (Daniel, 2019).

From these it is clear that leadership will become even more critical to positioning mega- and open universities in the future (Olcott, 2024a; 2024b).

Olcott (2024a; 2024b) argued that the market has changed, and the new reality for higher education is online, over print, as the new norm. The core value of increased access is facing mixed reactions in the new competitive landscape, as students question the costs of university study, the futility of long-term debt, and questionable job prospects from the credentials they have earned (McGreal & Olcott, 2022; Olcott, 2021). Micro-credentials, or Alternative Digital Credentials (ADCs), are emerging globally and gathering momentum amongst employers, students, university online units and senior leaders (Brown et al., 2023; McGreal & Olcott, 2022; Olcott, 2024a).

The Commonwealth of Learning (2023) reports that, since 2017, those open universities profiled across both of their studies had lost nearly a million students over a five-year period; perplexing is that the institutions in their sample had hired *more* administrators and support staff, even though student numbers had declined. This would not be the first time that universities, including open universities, were criticised for administrative bloat. Progress towards gender equity and equality in enrolment has also made little progress. The Covid-19 pandemic resulted in international students staying home in their respective countries and regions, which created varying financial crises for many countries dependent upon large numbers of international students including Australia, the UK, the U.S., France, and Germany alongside other European and Asian countries.

Next generation mega- and open universities: from Strategic Reset to practice

The focus of this chapter is Strategic Reset as a conceptual process which mega- and open university leaders can apply to revise their future direction, vision, and mission. The starting point is for leaders to decide the version of the mega- or open university model they want to pursue. If the vision is the same as that of the past five decades, leaders will go through a typical strategic planning process and, yes, business as usual. However, if their current model is out of alignment with the needs of society, students, faculty, employers, funders, accrediting agencies, and governments, then Strategic Reset must consider key synergies to support a new model.

What may be the components or structural affordances inherent in a next generation open university? I suggest six elements are worth including.

²⁹ Editor's note: see also chapter 2.5 in this work.

Streamlined open university models

Fewer programmes, less students, and greater emphasis on quality and service is an option (Olcott, 2024a). Leaders should build upon the traditional flexibility of open access and enrolment to align high demand credentials with national and global workforce and economic development needs. The implications for practice are, firstly, ensuring the means to maintain high demand programmes and ensure quality in those programmes, and secondly aligning the credential range of programmes with national qualifications frameworks and industry and employer needs.

Targeted and focused access

Mass, scalable access to degree programmes could be replaced by targeted degrees and skill-based micro-credentials. This is not an argument for or against either degrees or micro-credentials; it suggests instead that institutions could decide on proportional division amongst both areas to provide students alternative options. The implication for practice is a move toward reshaping mass access (a long-standing attribute of mega- and open universities), away from degrees without employment and career opportunities, toward serving student and employer needs. More micro-credentials (or similar school-to-work credentials) are critical to opening the doors of equality and equity for all students, particularly in developing countries.

Focus on national online teaching activity

A national, rather than international, footprint is historical to all open universities (Olcott, 2024a). International activities are best only for research partnerships and open content sharing, not student enrolment. The implication for practice is optimising activity to serve primarily students in their own country; even clever marketing fails to draw internationals. It is a fallacy to think that online capability and capacity automatically means ‘going global’ for more students.

Strengthen partnership bases in pursuit of national priorities

New and innovative partnerships with employers, sister universities, government agencies, and public schools ought to be fostered. Mega- and open universities should be considered national assets by all key stakeholders in the educational ecosystem. Doing the right things, not necessarily more things, will strengthen mega- and open universities. More is not necessarily better! The implication for practice is a renewal of partnerships and models, first and foremost with the private sector. Employers must not simply be ‘consulted;’ they must be fully engaged and invited to be equal partners, working to identify key degree and skill areas that align with the needs of business and the nation.

Develop open university lifelong learning (LLL) Passports

The rhetoric around lifelong learning is pervasive across the globe. Mass advocacy is needed to reflect this, so that students can enter, stop out, and re-enter the educational ecosystem at any time during their lifespan. From day one, all mega- and open university students ought to have an LLL Passport that includes all credentials, experiences, work related activities, micro-credentials, degrees, certificates, and volunteer work earned by them. The passport might be started at any participating mega-, open, and dual-mode university regardless of what activity they start their passport with, be it a degree, micro-credential, or work-based learning enrolment. This initiative requires further discussion amongst key stakeholders as well as across mega- and open university leadership.

Alternative funding schemes

Mega- and open universities are uniquely positioned to play a leadership role in discussions with funding agencies, government agencies, students, employers, and other stakeholders to explore alternative funding models for the future. The primary goal should be to keep costs as low as possible for students, and the quality of academic programmes as high as possible. Scalability and the mantra that 'more students equal lower costs' works effectively if there is unlimited funding provided for all students. Amidst government funding cuts, greater price competition, and low fees structures for students (particularly in developing countries) economies of scale are less likely today. The first step toward an alternative funding scheme should examine the financial model based on a new mix of degrees and skill-based credentials. Degrees that are expensive to maintain and do not provide ample employment opportunities for graduates in the workforce ought to be eliminated.

The six ideas here are intended to provide senior mega- and open university leaders with an expansive range of choices for setting strategic priorities and adopting agile and flexible operational practices. Some mega- and open universities might look to adopt more streamlined and downsized versions of these six ideas; in developing world contexts more traditional mega-university approaches might simply be expanded to provide still more access to higher education.

Summary

Strategic Reset provides an opportunity and process for senior leaders to set new directions and priorities for the future of their universities. Each institution will have unique characteristics, and there will be significant pressures for open universities to look the same, offer the same programmes, and engage in business as usual. Leadership is needed to ensure strategic growth beyond business-as-usual.

Mega- and open universities can reinvent themselves to thrive in the future rather than just survive. Many mega- and open universities may need to be smaller; better focused; streamlined, nationally oriented, whilst learning from global innovations; play a leadership role in exploring alternative funding schemes; and look to offer a mix of traditional credentials (degrees and certificates) in concert with micro-credentials and other alternative credentials needed by employers and students in the lifelong learning process. Mega-universities still have a viable mission for improving access to higher education, particularly in the developing world. These large institutions may become even more valuable than in the past. In the final analysis, Strategic Reset will take visionary, innovative and courageous leadership. The best is yet to come!

Copilot summary

This chapter discusses the need for mega-universities to undergo a strategic reset to remain competitive and relevant. It highlights the importance of digital capacity, clear mission, and strategic priorities. The chapter addresses challenges such as mission ambiguity, market misalignment, and the impact of online learning. It proposes a framework for strategic reset, emphasizing leadership, innovation, and partnerships to enhance quality, access, and sustainability in higher education.

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CHAPTER 2.3

Strategies for contemporary university leadership: the central role of technology

Ross Paul



“The combination of the Covid-19 pandemic, the rising impact of social media, unprecedented funding challenges, and the concomitant explosion of information technologies and GenAI have conspired to challenge university leaders, putting a premium on effective strategic positioning as never before.”

For a host of reasons, the world of higher education is in considerable flux. University leaders must consider carefully how their institutions can best achieve competitive advantage in an increasingly volatile environment. More than 50 years after the establishment of the Open University, United Kingdom (OUUK), which eschewed some of the fundamental tenets of a traditional university and spawned many successful mega universities, there is again need for new and revised university models that ensure graduates who are well prepared for the ambiguity and uncertainty of a fast-changing world.

Central to any reconsideration of how a university is organised and managed is the advent of dramatic new technologies, notably Generative Artificial Intelligence (GenAI). These technologies not only offer innovative approaches to teaching and learning, but, because they readily facilitate accessibility of knowledge, they shift the emphasis in teaching and learning to future skill development. This, in turn, has significant implications for institutional management: tech savvy leaders are required, who can work collaboratively with all stakeholders to oversee innovation and reforms that strongly support these new directions.

In support of the need for institutional redesign, attention is directed to the work of leading organisational theorists Michael Porter and Henry Mintzberg. Within a given sector, the appropriate responses to such a radical shift in technology could range from creating brand new types of institution to the more likely outcome of reforming existing

ones. It is critical that large-scale changes proposed for a given institution have the ultimate support of its key players, underlining the importance of inclusive leadership.

The case for redesigned university models

The university is one of the world's longest surviving institutions. Until very recently, its *modus operandi* was primarily to serve full-time students on campus. Teaching and learning were the domain of full-time faculty members; academic governance stressed collaboration and academic freedom; and the institution's leadership was primarily concerned with providing the infrastructure and processes that supported this universal model. Apart from a greater emphasis on the integration of research and scholarship (under the Humboldtian model) and the diversity of the student base, the modern campus-based university would be very recognisable to someone looking at it from a century or two earlier.

The combination of the Covid-19 pandemic, the rising impact of social media, unprecedented funding challenges, and the concomitant explosion of information technologies and GenAI have together conspired to challenge university leaders, putting a premium on effective strategic positioning as never before. These influences challenge the very nature of the university, directly influencing how students learn and how faculty teach and, in some cases, the very mission and mandate of the university. The search for competitive advantage becomes extremely complicated.

Using the notion of 'future skills,' Ehlers and Eigbrecht (2024) advocate major reforms of university curricula to prepare graduates for what they describe as a 'VUCA' world, one 'characterized by volatility, uncertainty, complexity and ambiguity' (Ehlers & Eigbrecht, p. 10). They add that 'Future Skills can be defined as competences that enable individuals to solve complex problems in a self-organized manner in highly demanding contexts' (Ehlers & Eigbrecht, p. 26). These authors, along with the many contributors to their book, envision a trend away from a universally set curriculum to one more flexibly defined, with the objective to help graduates prepare for the ambiguities and complexities of the modern world. While there are competing and sometimes conflicting notions of what these future skills should be, the writers are united in the ways that our universities need to change, emphasising the 'soft' skills of critical thinking, creativity, and problem-solving that have been the primary domain of the humanities and social sciences.

Bates (2022) sees 'knowledge management' as the most over-arching future skill. Knowledge management is the key skill in a knowledge-based society: the ability to find, evaluate, analyse, apply, and disseminate information within a particular context is critical for every university graduate. Above all, students need to know how to validate or challenge sources of information.

A greater emphasis on knowledge management in education requires significant and innovative change in how our institutions of higher learning operate. Today's university leaders can learn much from the responses to similar pressures for change some 50 years ago, when it was increasingly recognised that access to higher education was a critical component of economic and social development in all societies even as prevailing university models, high entrance requirements, and tuition fees limited access to the more affluent and socially advantaged. Working adults found it difficult to attend classes, especially on a full-time basis.

The Open University: a dramatic change in university design:

One significant response to historical university access was the creation of a very different kind of university. The OUUK was launched in Britain in 1969, at a time of overwhelming demand for university places and the recognition that many working adults needed alternatives to the prevailing academic model. The OUUK deviated considerably from traditional university design. Its so-called 'industrial model' (Peters, 1993) substituted course teams for individual faculty members to develop course packages that were mailed out to students. Under this model, students could study in their own time and place and proceed at their own pace with the support of television programmes and course tutors on the telephone or in regional centres. OUUK professors accepted very different roles from those in traditional settings, working closely with editors and instructional and visual designers to produce academic materials, initially for correspondence delivery and subsequently for online learning. This presented a radically different academic model that would have been far more challenging to achieve through modifying a conventional university, rather than forging a brand-new one.

The OUUK quickly demonstrated that open admissions were effective, as thousands of adult students, previously unable to attend university full-time, could thrive in a system of asynchronous course delivery that allowed them to study in their own place and time. Its model was quickly adopted in various configurations in other countries, by government and institutional leaders seeking cost effective ways to spur university participation rates. The results were spectacular with some fledgling open universities rapidly evolving to mega-university status, initially defined as having 100,000 or more students (Daniel, 1996). Though not initially set up to be mega, these institutions quickly grew to that level.

The initial success of the open universities was due to their differentiation; these were institutions designed to cater to unmet needs in innovative ways that stood out from the competition. Because they were so different, especially those with open admissions policies, there was considerable scepticism about their quality. But this was quickly overcome by the success of so many early OUUK graduates, notably schoolteachers

seeking to enhance their credentials. OUUK students were highly motivated and thrived in a system that allowed them to pursue further educational credentials while working full-time.

Mega-universities

Through their emphasis on accessibility, flexibility and self-managed study, these new 'open' institutions helped thousands of students in each national jurisdiction overcome significant barriers to university access. The model was also well suited to the subsequent infusion of new technologies, as the internet and information and communication technologies (ICT) gradually replaced the postal system through online learning, magnifying the advantages of the open university model. The results were spectacular, with some universities attracting millions of students (see Appendix).

As such, the world's open and mega universities are a prime example of effective institutional design. In particular, they have demonstrated that:

1. *A radical new design can yield competitive advantage* (through a combination of differentiation and cost effectiveness), even when or especially because it challenges long established practices and beliefs around teaching and learning.
2. *Given appropriate course design and delivery and strong student support*, most learners can thrive relatively independently.
3. *Large sized institutions can offer significant cost savings* and, hence, less reliance on government funding.
4. *A well-considered innovative approach to institutional design can produce very different institutional models* which can compete successfully on matters of quality and relevance.

Nevertheless, even the most successful mega-universities found it necessary to invest heavily into quality assurance schemes, a recognition that their deviation from the norm yielded significant scepticism about their overall quality. These efforts have been well documented by Jung (2005), Belawati and Darojet (2014) and Ertürk Kılıç et. al. (2023).

It is easy to forget that the creation of new universities eschewing many sacred components of long-established academic models required imaginative and courageous leadership, from governments and academics alike. The vision and foresight of government leaders such as Harold Wilson and Jennie Lee in Britain, and the academic credibility and determination of vice-chancellors Walter Perry (OUUK) and Ram Reddy (IGNOU), were absolutely essential to the success of their respective institutions. Today's leaders can learn much from such examples but, to the extent they try to reform existing institutions, they will face the added challenge of persuading in-house academics of the need for change, alongside the detail of those potential changes.

Digital technology and new models of teaching and learning

Just as the pressures for access and innovation produced the conditions for the emergence of open and mega universities, current challenges facing higher education institutions have created an environment that is, once again, posing serious questions about university effectiveness. A host of new digital technologies, including GenAI, offer both huge opportunity and significant challenges.

Ensuring competitive advantage in today's volatile higher education market will be easier for some institutions than others, with prestige and reputation a critical factor in the difference. Leaders of well-established medical or doctoral research-intensive universities; polytechnics and community colleges with in-demand programmes; small teaching universities which place a premium on the value of campus life; or public and private institutions with niche markets or targeted clientele, may be less apt to change but will still face strong competition within their respective domains.

The need to reconsider institutional design applies as much to open and mega-universities, which are no longer as easily differentiated and cannot afford to stand still with their existing structures and processes. They may well face the same sorts of internal resistance to change long inherent in more conventional institutions.

Strategic positioning and institutional design

With long established academic purposes and practices being challenged in unprecedented ways, leaders are facing considerable pressure to define their institutional purposes and operations more specifically. Until recently, most established institutions have relied on relatively parochial notions of strategic planning, building on SWOT (Strengths, Weaknesses, Opportunities, Threats) analyses to develop five-year plans that help set out institutional priorities. Too often, instead of forging clearly differentiated visions and priorities for the given university, such exercises result in plans that look very similar across institutions.

Martin (2014) emphasises that plans can hardly be considered strategic if they are indistinguishable from one other, given that a key purpose of strategy is to gain institutional advantage. Noting the frequency of such general objectives as 'performing high-impact research' or providing all students with 'a transformational learning experience,' (Eckel & Trower, 2019, para. 11), Eckel and Trower reinforce Martin's observation.

To what extent can, or should, leaders of established conventional universities reform their institutions through deliberate design at a time of major upheaval? What can conventional university leaders learn from the examples of the mega-universities as they

seek competitive advantage in more volatile markets? The answer will vary considerably with the type of institution, its particular niche, and current trends in higher education.

University leaders reconsidering the place of their institution in the higher education framework would do well to consider the work of the two dominant management theorists of the past 50 years: Michael Porter, and Henry Mintzberg. Moore (2011) contrasts Porter's 'taking a more deliberate strategy' with Mintzberg's 'emergent strategy.' He suggests that Porter's approach was very effective in more stable times but sees Mintzberg's as more useful in today's increasingly complex and fast changing world.

There are, nevertheless, key aspects of Porter's work that are still highly relevant to contemporary educational leaders, in particular his emphasis on competitive advantage, which is normally achieved either by low-cost provision or differentiation from the others in a given industry. Porter's Five Forces Framework (Porter, 2008) asks leaders to consider the state of their industry, the threat of new entrants or substitutes, the bargaining power of customers and suppliers, and the state of competitive rivalry in the industry.

Consideration of the five forces, according to Porter, will be strongly influenced by some key factors in the industry. These can be applied to higher education as follows:

Industry growth rate

In whatever form (full degrees, post-graduate qualifications, micro-credentials, full- or part-time, on-campus or online, or combinations thereof), the demand for higher education is stronger than ever. Whether driven by economic or social needs, the volume of demand in a given jurisdiction may change dramatically at this time of rampant technological and social change in ways that increasingly challenge the value and organisation of the modern university.

Technology and leadership

Technology is a key factor in institutional design. The disruptive nature of technological advancement, most recently in the form of GenAI, can very quickly reshape an entire marketplace. University leaders will continue to struggle in their pursuit of the optimum combination of information technologies for their specific institution, primarily because of buy-in from academic staff and cost constraints. Most institutions will have to be selective in the technological configurations they can afford, often risking failure if they attempt to move too far ahead of the curve.

The rapid development of digital technologies has a profound impact on institutional leadership. It requires leaders who are tech savvy in the sense of knowing which applications are best suited to their particular institution, notably whether they justify the additional costs and administration. Staying abreast of technological change requires

continuous learning and adaptability. Leaders need to keep up with trends, understand the implications of new technologies, and have a constant readiness to pivot their strategies as needed (Rizvi, 2024).

Technological impacts go well beyond innovation in teaching and learning. They include managing remote work, labour relations challenged by the rapidity of change, cyber security issues, talent management, and tracking productivity (as measured in student success, and cost effectiveness). Each of these brings both new opportunities and significant challenges for institutional leaders.

Government

In most societies, government plays a critical role in encouraging or discouraging institutional innovation through both policy and funding. Today's thriving mega universities would not exist without the initial leadership of national and local governments. However, at a time of conflicting priorities and increasing cost constraints, few governments are in a position to create major new institutions, placing more pressure on established institutions to reconsider their own approaches to teaching and learning.

This places a greater premium on what Mintzberg (1994) calls 'strategic positioning,' that is, defining one's institution in ways that differentiate it from the competition. Mintzberg substitutes 'strategic thinking' for the more common 'strategic planning,' emphasising a longer-term view of what the institution is and aspires to be:

Indeed, strategic planning often spoils strategic thinking, causing managers to confuse real vision with the manipulation of numbers. And this confusion lies at the heart of the issue: the most successful strategies are visions, not plans. (Mintzberg, 1994, p. 1)

Eckel and Trower echo Mintzberg's emphasis on strategy over planning:

A focus on strategy is intended to help institutions experiment and take initiative, to ask questions and create synergies, and to move institutions ahead in often unknown and unknowable environments. By framing different types of conversations as part of strategic planning efforts, our hope is that we can generate different, and more beneficial, outcomes from those processes (Eckel & Trower, 2019, para. 25).

In earlier days in the business world, it was a common practice in organisations to set up separate strategic planning branches. However, leaders quickly realised the importance of integrated planning from within an institution's operations. Similarly, it will not be enough for those leading conventional universities to envision significant institutional change without thoroughly involving all components of their operations from the outset; faculty and staff, students, boards, alumni, and, for public institutions at least, the governments that both regulate and to varying degrees fund them, must all be included.

Alternative approaches to institutional change

On the premise that all university, college, and government leaders need to take seriously the major challenges discussed thus far, there are three possible responses: creating innovative new institutions, revising an existing university or, after a thorough assessment of the institution's competitive position, reaffirming its existing structures and processes. Our attention turns to these possibilities now.

Creating brand-new institutions

Mega-universities have demonstrated that radically different academic models can be successfully introduced into the staid world of higher education. Hence, one response to the current context of higher education is to develop new look institutions designed to meet the latest challenges. The possibilities are limitless, but one can readily imagine new institutions informed by the discussions and research around future skills, micro-credentials, and transformative technologies.

As one example, McGreal and Olcott (2022) explore the pros and cons of 'a strategic reset' of higher education through new kinds of institution that stack micro-credentials into nano-degrees and offer high levels of flexibility to students. Much of this is already evolving, notably in the community college sector, but it is possible to envision an innovative new sort of university built around these concepts. The authors conclude that, while micro-credentials are no panacea for today's challenges, they may provide strategic value if integrated with other major institutional initiatives.

In 2022, a group of five MIT professors issued a White Paper entitled *Ideas for designing an affordable new educational institution*, which also included stackable credentials (Henderson et al., 2022). Their paper is particularly important for recognising that institutional change to teaching and learning approaches relies on incentives for professors changing.

There are many other possibilities for new models of university explored by Staley (2024), who sets out ten possible examples focusing on specific goals that might form the basis for a new kind of higher educational institution. It is easy to imagine forthcoming proposals for quite radical new kinds of post-secondary institution, built around rapid developments in GenAI applications.

While these and other emerging ideas could lead to the creation of innovative new institutions, redesign of existing academic institutions might meet the same ends.

Redesigning existing institutions

Achieving competitive advantage through redesign might involve curriculum reform informed by the future skills movement, harnessing new technologies in unique and

innovative ways, or introducing unique components that attract new students because they stand out from the competition (or any combination of these). Such redesign can significantly change the look of an entire institution, be limited to a specific approach to teaching and learning or applied only in certain faculties or programmes. Much will depend upon the profile and reputation of the given institution, though even the most established institutions may accept the need for major change in the prevailing environment.

While there is much to learn from the success of open and mega-universities, it is much more difficult to achieve radical change within an existing institution. Open university structures and processes were designed in very specific ways from the outset, and faculty and staff were hired only after their roles had already been defined. Hence, those who chose to join these new universities accepted these parameters and worked with them to build the institution's profile and reputation.

This contrasts sharply with conventional universities, which have evolved over decades and even centuries into complex institutions with a variety of entrenched power structures and cultures that are broadly understood and supported. Changing such institutions from within brings a whole new set of challenges to academic leaders. For conventional universities, change almost inevitably means challenging not only traditional practices of teaching and learning but long-established institutional power bases. It means that presidents, vice-presidents (academic), and deans will be more directly involved in determining the best combination of teaching and learning strategies in the overall context of institutional reputation, mission and mandate, and competitive advantage. The financial implications of various options will be of particular interest.

There are strategies that can increase competitive advantage through cost, primarily by offering very popular programmes where the demand for places exceeds the local supply. However, most cost efficiencies produce minor differences between institutions and cost effectiveness is much more likely to evolve from strategic differentiation, as was the case with mega universities.

Reaffirming existing practice

The notion of redesigning the modern university is antithetical to traditional views of the academy. There will be a natural tendency for many institutional leaders to eschew major structural changes and to reaffirm their current practices. There will always be a natural suspicion of the long-term benefits of the latest technologies, and universities with high demand for existing places, large endowments and strong alumni support may be reluctant to tinker with established success. However, it is important that this be a deliberate choice after the institutional leadership has carefully considered all the above factors and the value of change. This is not a time for institutional complacency (Paul, 2024).

Given that redesigning existing institutions is the most probable response to today's challenging environment, the remaining discussion focuses on how this might be achieved.

Strategic positioning and the search for competitive advantage

For the majority of universities this is a time of major challenge, driven by the advent of GenAI, a much higher profile of online and asynchronous learning, and fundamental questions being asked about the whole purpose of higher education. Academic leaders will feel the need to reconsider all aspects of their operations, pursuing questions like the following:

1. What is happening in the current university environment? What emerging technologies are most apt to be disruptive and how relevant are they to our institution's future?
2. Is this a time for major curriculum reform? How can we shift the emphasis from knowledge transfer to future skills development?
3. To what extent have we found an appropriate and sustainable combination of face-to-face and technology enhanced delivery?
4. Are we 'tech savvy' with a high capability to assess both the potential and drawbacks of incorporating new technologies into our operations?
5. How well established is our institution? Are we working from a clear long-term vision of where we should be going? Are there concerns about future enrolments? Is it in good financial shape? Is there consensus about its current strategic directions and the ability to achieve them?
6. Is the institution's particular role and *modus operandi* clearly established, well understood (within and without) and broadly supported?
7. Is ours suitably differentiated from other institutions to the extent that this is part of its competitive advantage? Are there attractive new opportunities for differentiation in terms of teaching and learning, unique programs and services or other provisions that could contribute to its competitive advantage?
8. For public institutions, are there signals from government sources that might offer opportunities for developing differentiated programmes or services?
9. Do we, or could we, offer any cost advantages to our students through a combination of programming, support services, tuition fees, scholarships and other financial support?

While this chapter advocates significantly more proactive roles for university leaders, it also underscores the vital importance of faculty participation and involvement in all facets of its development. Changes in central technologies need to be considered carefully in a climate of open dialogue and serious consideration of their long-term benefits, costs, and risks. This requires strong, team-based leadership and extensive professional development programmes to ensure internal and external community support for all steps in this process. Real and meaningful change will only be achieved

when there is broad recognition within a given institution that fresh approaches are vital to its continuing success.

Conclusion

The success of open and mega-universities has shown that it is possible to build brand new institutions that respond effectively to unmet needs and, in some cases, overturn very long-standing university structures and practices. Once such a distinctive new institution is established, its differentiated appeal may result in burgeoning enrolments so that it achieves both of Porter's components of competitive advantage: differentiation, and cost effectiveness.

However, most change is likely to come from redesigning existing universities. This is an ongoing and long-term process, requiring an active demonstration of Mintzberg's strategic positioning and collaborative leadership that brings the whole institution along in support of significant, and even radical, changes in structure and process. It will certainly involve carefully conceived adaption of existing and adoption of new technologies.

University leadership was never more important. The times are challenging, but they can also produce exciting new ways of advancing higher education in all societies.

Copilot summary

This chapter discusses the challenges faced by university leaders due to the Covid-19 pandemic, social media, funding issues, and technological advancements like Generative Artificial Intelligence (GenAI). It emphasises the need for innovative approaches to teaching and learning, strategic positioning, and inclusive leadership. The chapter highlights the success of open and mega universities in adapting to these changes and suggests that existing institutions must also consider redesigning their models to remain competitive and relevant in a rapidly changing environment.

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CHAPTER 2.4

Strategies for mega-universities: the contemporary landscape and the future

Stephen Murgatroyd



“‘Going online’ is now not only mainstream in terms of practice but seen as strategically critical for almost every university in the world. For mega-universities, this means that their value proposition is no longer unique.”

In this chapter we will explore the drivers for change, the strategies being deployed, and the scenarios for the future based on a review of the strategic plans of 40 of the mega and open universities worldwide undertaken by the author for this chapter.

Universities around the world are in an ‘in-between time.’ Established ways of operating, teaching, and assessing students are changing rapidly, but new ways of responding are just emerging and not yet settled. Conducting research is also changing, with a greater emphasis on clusters of researchers rather than the individual and a stronger focus by investors in the commercialisation of invention. The current state of flux is challenging and demanding, especially for university leaders and their funders. As the great baseball player Yogi Berra said, ‘The future ain’t what it used to be.’

Mega-universities generally pursue a strategy of least cost provider to a broad market, leveraging their size to offer a wide range of programmes, courses and services to reach a large market (Porter, 2004). While quality is a concern, the more focused concern is securing and sustaining a sufficient volume of student registrations to maintain competitive advantage. The challenges this gives rise to are numerous. Key amongst them is their cumbersome governance and slow change processes, coupled with the vulnerability of their legacy systems. As technologies emerge which require significant investments in infrastructure and new approaches to curriculum design, development, deployment and delivery, the lack of agility in mega-universities is proving to be a severe

constraint. When faced with new change dynamics, larger institutions often struggle to respond at speed and with innovation.

Drivers for change: challenges and opportunities

Several issues challenge the leaders of mega-universities as they look to respond to a different future. Three deserve specific attention here.

The first challenge is *a world-wide change in demographics*, based on a decline in fertility and a change in the demand for human capital. By 2050, 75% of the countries in the world will have birth rates below replacement, and by the end of the century, demographers expect that this will be the case for 97% of nations (The Lancet, 2024).³⁰ The short-term impact of this trend is a global decline in demand for student places, but an equally important challenge will be finding and retaining highly qualified faculty. Linked to these issues is the world-wide war for talent. Employers are seeking highly skilled-labour and seem unable to find, recruit and retain them locally. The pressure on universities is to change programmes so that they are better aligned with the needs of the human capital market, which will mean shorter programmes and applied research that aligns with industry needs. The dynamics of these challenges will become increasingly intense. At stake is the purpose of a university and the integrity of the academic endeavour.

A second issue, not new but now becoming mission-critical for several mega-universities, is *the decision of governments not to provide financial support for universities at the level they require* to enable further growth, cost recovery, and maintenance of physical facilities, or even cover the cost of inflation (Higher Education Strategy Associates, 2022; European Commission, 2024). In response to this challenge, universities have had to become both much more cost-conscious and entrepreneurial as seen from the growth of non-governmental revenues on their financial statements. Changing flows of international students are having a major impact on university revenues, and subtle changes in policies, especially in relation to equity and inclusion or immigration, are also impactful. In 2021, there were 6.4 million international students, a threefold increase since 2000.³¹ Many of these students are from emerging economies, including India, China, South Asia, Brazil, and Columbia. The destination of these students can have a major impact on the economic wellbeing of institutions. One universal feature of the response to this challenge has been a growing reliance on ‘precarious’ faculty (sessional

³⁰ See also

https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd_2025_wfr-2024_advance-unedited.pdf (accessed 4 August 2025).

³¹ Based on <https://www.un.org/en/global-issues/population> (accessed 4 August 2025).

or adjunct instructors), and a decline in the number of tenured or tenure-track academic staff.

A third trend, also not new but accelerating (Watters, 2021), is *the emergence of educational technologies which purport to have the potential of 'transforming' higher education*. In particular (all at time of writing), new Generative Artificial Intelligence (GenAI) systems including Claude 3 Opus, ChatGPT5, Palm3 and Wu Dao 3 are already influencing research, teaching, and learning. A more particular impact is on the assessment of student learning. Cheating has been a feature of educational systems since the Ming dynasty; students now have much more effective, and largely undetectable,³² tools to cheat. Universities are realising that they have to reimagine teaching, learning, and assessment in an age of GenAI rather than seeking to maintain what are increasingly ineffective ways of educating students (Bowen & Watson, 2024; Murgatroyd, 2024). Technology has also enabled the growth and development of online, flexible learning, including the emergence of micro-credentials. Online learning began in the early 1990s and was considered experimental at the time. 'Going online' is now not only mainstream in terms of practice but seen as strategically critical for almost every university in the world. For mega-universities, this means that their value proposition is no longer unique.

The challenge for leadership

Leading any organisation is demanding work. Leading a mega-university is especially demanding. This is in part because of the complex governance structures universities have adopted. Bicameral governance, where broad strategy and fiscal issues are the purview of one body and academic matters that of another, has its roots in a different time and under a different set of circumstances. A key issue for mega-universities is that this governance model is no longer fit for purpose, since trust between the two arms of governance appears to be declining. Further, the growing reliance of universities on their entrepreneurial activities means that a third arm of governance, namely 'enterprise and continuing education,' is often managed outside of the bicameral structure.

It takes courage to lead complex organisations which rely on a high-quality combination of people and systems to enable the services they provide. Courageous leadership in universities is in short supply. Research by Paul (2015), Turpin et al. (2014), and Cafley (2015) found that 25% of Vice Chancellors appointed in the year 2000 left their positions prematurely, and many executive search consultants confirm that finding and

³² Based on https://www.linkedin.com/posts/emollick_the-dead-horse-i-will-continue-to-beat-instructors-activity-7110824504985010176-mbz/ (accessed 4 August 2025), and Murgatroyd (2024).

persuading candidates is becoming increasingly difficult, especially given the social media scrutiny they will receive if they accept the position (Paul, 2024).

There has also been a significant shift in the purpose of a university. When many mega-universities were established, their purpose was to increase access and success in higher education for individuals who otherwise would have been denied access due to their socio-economic status, physical location, or gender and sexual orientation (sometimes as the result of domestic duties). Now universities are increasingly being evaluated on their ability to deliver to the needs of the human capital market, to secure additional revenues from their own entrepreneurial endeavour, and to have real and quantifiable impact on the social and economic fabric of a region or nation. League tables, impact assessments, sustainability assessments, research impact evaluations are now all part of the accountability and quality assurance landscape in which mega-universities compete for students, faculty, funding and reputation.

Responding to the challenges of the present situation

Faced with these challenges, what are universities doing? What are the patterns of response? Six common responses can be discerned from a review of 40 strategic plans for mega-universities worldwide completed by the author for this chapter, using published plans and covering institutions across the world.

Globalisation

The University of South Africa (UNISA) is now the second largest university in Africa after the Open University of Nigeria, and it has sought to expand to a global presence, as has the Open University, United Kingdom (OUUK) and several other mega-universities. Several mega-universities have multiple campuses around the world. Institutions operating multiple campuses either within or across countries are network organisations, which require different kinds of leadership and management.

Digitisation and datafication

Many see online, distance, hybrid, and short forms of learning (through micro-learning, micro-credentials, boot camps) as a way of fulfilling their mandate to increase access and success in higher education for under-represented groups, despite evidence of low completion and success rates. These developments also raise challenging issues around data security, privacy and surveillance, equity and inclusion. Not all jurisdictions, even in developed countries, can provide universal access to affordable, reliable, and appropriate internet access useful for e-learning and GenAI-enabled learning. Not all students have access to appropriate technologies to leverage these systems for effective learning.

Democratisation and decolonisation

Decolonisation and reconciliation are major themes, especially in the Global South, but also in those northern countries with significant indigenous populations. Universities are committing to reflect indigenous ways of knowing, to speak to the trauma of slavery and residential schools, and to the tyranny of oppression. This has implications for admissions, ways of learning, assessing learning, and for the nature of support services. Universities are positioning themselves as engines of resilience and reconciliation.

Integration and collaboration

The number of collaborations with tangible outcomes (shared research, shared programs of study, faculty exchanges, and shared joint ventures) has been growing since the turn of the century. While mergers between universities are rare, these can be transformative; consider the significance of four universities in Hangzhou (China) to become a world-class comprehensive research university (Sharma, 2022), and the planned merger between the University of South Australia and the University of Adelaide (Sinclair, 2024). Mergers usually focus on economies of scale, efficiency, research intensity, leveraging online learning, and strengthening quality. Established research on mergers and acquisitions shows that it takes a specific kind of leadership and support to achieve the outcomes intended (Sulkowski et al., 2020).

Commercialisation

Given the paucity of government funding for universities, universities have pursued commercial revenue streams. These include corporate training and consulting, real estate and land leasing, and the leveraging of intellectual property for commercial value (Lundy & Ladd, 2016). Returns from inventions (in the form of patents, trademarks, and copyrights) are usually much smaller than many anticipate. Risk-taking is at the heart of commercialisation, and the governance structures used by universities often make such risks difficult to take, especially in terms of fast responses to emerging opportunities (Liang, 2024). Indeed, when the strategic plans of 40 institutions are reviewed, risk assessment and evidence-based risk analysis is noticeably absent.

Sustainable development

Universities are at the forefront of efforts to research and champion policies and practices linked to the United Nations' Sustainable Development Goals (SDGs). Efforts to focus on sustainability are driving curricular and pedagogical changes that will engage students concerned about making a difference in the world and providing a ready way for universities to demonstrate their relevance. The Presidents of 56 universities initially signed the Universities Global Compact in 30 countries to leverage the knowledge, skills, research and capacities of their institutions in the service of SDGs (O'Malley, 2021). Each year, both the QS World University Rankings and the THE (Times Higher Education) World University Rankings measure universities based on

elements of their performance. The United Kingdom, Canada, and Australia are seen as the ‘golden triangle’ for this work, with substantial regional focusses on promoting adaptation and resilience in their commitment to the SDGs.

Mega-universities are no more or less sensitive to market conditions, small changes in key revenue sources or challenges from regulators, policy makers, students or faculty than are other universities. Indeed, any old idea that they are too big to fail is no guarantee of continuity. Each mega-university, time and again, must demonstrate its impact and value.

Scenarios for the future: what will 2050 look like?

Scenarios help in exploring the landscape of options which institutions need to navigate and are widely used in a range of settings from business, healthcare, social service and education. What follows is a way of anticipating the collective future of mega-universities into 2025, based on Figure 2.4.1.

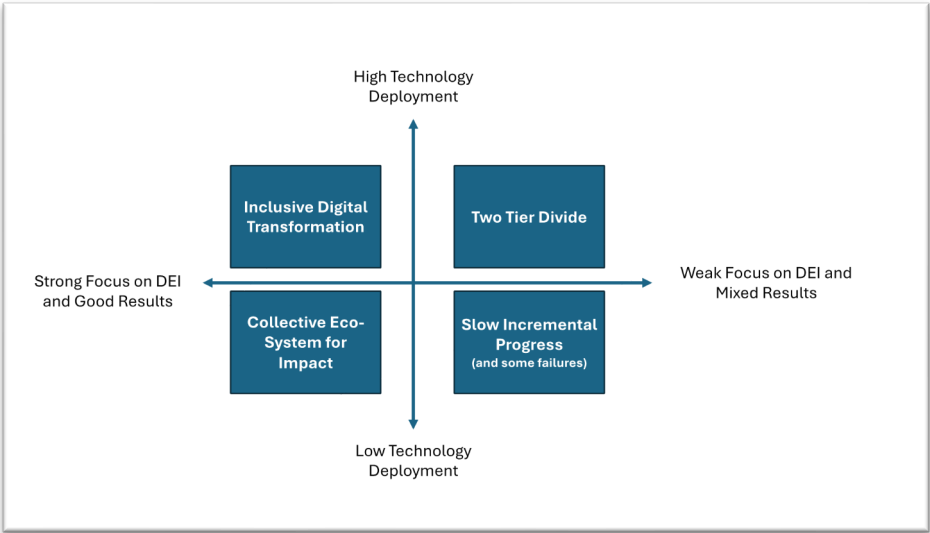


Figure 2.4.1: Four scenarios for the future of universities

The development of scenarios here leverages both the change drivers and existing strategies already considered, focused on two key dimensions: firstly, the strong focus on equity, inclusion and diversity linked to affordability; and secondly, the level of

technology deployment to enable effective, flexible learning. These two dimensions produce four major scenarios for the future, elaborating on earlier scenario work (Murgatroyd, 2021, 2024; Tully and Murgatroyd, 2013).

We will now explore each of these scenarios in depth as alternate outcomes for mega universities as a whole.

Scenario one: Inclusive Digital Transformation

In this scenario, mega-universities make significant investments in next-generation digital technologies to radically transform their learning models and expand access. Key elements include:

- Highly personalised, adaptive learning platforms that combine GenAI, virtual and augmented reality, and gamification to enable engaging, flexible learning experiences. This may require a new understanding of what constitutes a ‘course’ and ‘credit,’ and a renaissance in assessment (moving towards assessment on demand). Accompanying this may be multiple admission points (daily and flexible, not semesterised), which would in turn significantly increase access to learning.
- Expanded online and hybrid programme offerings at affordable price points to reach vast numbers of diverse learners, especially in underserved populations.
- Robust student support services leveraging predictive analytics, and GenAI coaching and mentoring, to drive student success and completion.
- Deep partnerships with industry to co-develop cutting-edge, market-aligned programmes that also provide learners with hands-on, work-integrated learning.

The result is a digitally powered, highly inclusive model that enables mega universities to provide accessible, affordable, high-quality education to millions of students worldwide.

Scenario two: Slow Incremental Progress

In this future, mega-universities make modest, incremental improvements in deploying technology and expanding diversity, without radically transforming their basic model of teaching, learning, and assessment. Characteristics include:

- Gradual digitisation of learning through more online courses and digital resources, but still a heavy reliance on instruction and formalised learning experiences.
- A strong continuing focus on access and affordability, but challenges in keeping up with demand and supporting students’ holistic needs.
- Persistent equity gaps, especially at senior levels, but some progress on diversity through outreach and pathway programmes.
- Ongoing financial constraints, which limit investment in transformation and innovation.

While mega-universities in this scenario continue to play an important access role, they struggle to truly move the needle on equity and fall behind the technology curve.

Scenario three: Two-Tier Divide

In this scenario, a two-tier divide emerges between elite mega-universities that accelerate their digital and diversity efforts, and the rest that stagnate or regress. In the top tier:

- Leading institutions make major investments in digital platforms, GenAI, and learning analytics to create cutting-edge education experiences.
- Institutions double down on diversity, equity and inclusion, leveraging technology to personalise support and drive student success.
- Partnerships with top tech firms and research institutes fuel innovation.

However, the bulk of mega universities lie in the bottom tier, and:

- Face severe budget cuts, deteriorating technology and facilities.
- Struggle with overcrowding, high dropout rates, and poor student outcomes.
- See diversity decline without adequate support systems.

The result is a highly unequal two-tier system, with a widening gulf between the haves and have-nots.

Scenario four: Collective Impact Ecosystem

In this future, mega-universities come together in partnership with government, industry and community to drive coordinated transformation across their constituencies. Elements include:

- Shared technology infrastructure and digital platforms to enable collective innovation and efficiencies. These serve the mutual interests of reducing the human capital issues a specific region or nation faces, while at the same time supporting the upskilling and reskilling of employees whose work is changing due to emerging technologies or emerging opportunities.
- System-wide initiatives to expand affordable access and support the whole learner.
- Collaborative programmes to drive diversity across the student lifecycle and build inclusive cultures.
- Joint research and innovation hubs to fuel cutting-edge programmes.

By working together within their national ecosystem, mega-universities in this scenario achieve a greater impact than they could alone, making significant progress towards equitable access and outcomes enabled by technology.

In summary, these scenarios paint divergent visions for how the world's mega-universities may evolve to 2050 regarding their focus on equity and technology. Their

choices will have major implications for the future of higher education access and outcomes worldwide for all higher education, not just education at scale.

Four challenges for the leadership of mega-universities

These scenarios will not just happen of their own accord. They will result from the strategic decisions and leadership of each institution. To make any of these possible, four specific developments are required.

The first is to *reimagine the university as an agile, flexible, and responsive organisation* with an ability to take calculated risks, and to do so in nimble and effective ways. This in turn requires a reinvention of governance, with a shift from caution to anticipation, and from bicameral to unicameral governance. The idea of the university as a collective co-operative of self-interest will need to be replaced by a governance model that is able to anticipate the future and act quickly to seize opportunities, while retaining a focus on quality of the student experience and academic integrity.

This in turn requires *courageous, future-focused leadership*. In a world that is volatile, uncertain, complex, ambiguous, brittle, anxiety-provoking, and (for many) incomprehensible, leaders of mega-universities and university eco-system networks need to be both bold and courageous, while demonstrating what Bob Kegan calls the ‘self-transforming’ characteristics of the agile leader (Kegan, 1998). Being a safe pair of hands with a successful history of scholarship may not be what the university needs for its future.

Third, mega-universities, many of which were formed at a different time, *need to reexamine and confirm their purpose*. At the time of writing in 2025, what is the vision for what the university can become by 2050? Vision statements are often bland, empty, and vacuous. The work here is to ensure that the purpose is not only explicit, but that is powerful, inspiring, and engaging.

Finally, the essential key to this work is *improving outcomes and impacts*. Historically mega-universities, especially those with open admission, have lived with low completion rates. Across the OECD, around 31% of those who enter a university do not secure the credentials they were admitted to (Tremblay et.al., 2012). Some universities have much higher dropout rates than completion rates, for example, 68% of UNISA students leave without graduating (the figure is 85% for three-year diplomas).³³ Such indicators are problematic not only for students and their institutions, but for those who provide

³³ See <https://mg.co.za/article/2013-05-17-dropout-rate-points-to-lack-of-support/> (accessed 4 August 2025).

funding. Being innovative begins with increasing access to learning but must extend into success in learning.

Three pandemic-inspired strategic imperatives for the future

The Covid-19 global pandemic was a wake-up call for all universities. It revealed some of the challenges and issues each of the mega-universities now need to be working on. The pandemic changed the game.

To begin with, the *issues of student wellbeing and mental health* were drawn in sharp relief. A review of mental health among university students in six Southeast Asian countries (Cambodia, Indonesia, Laos, Malaysia, Myanmar, Thailand, and Vietnam) found median prevalence of 29.4% for depression, 42.4% for anxiety, and 13.9% for disordered eating (Dessauvage, et.al. 2022). The World Mental Health Surveys across 21 countries found 20.3% of higher education students had a 12-month mental disorder on average, with depression and anxiety the most common (Jaisoorya, 2021). Universities are strengthening their support for mental health and wellbeing and are also developing approaches to compassionate teaching and learning (Lister and Altman, 2024; Moríña, 2022). Continuing to work at this issue should be seen as mission critical.

Mega-universities and their smaller counterparts also realised *the value of co-operation and collaboration* during the pandemic. The knowledge economy relies heavily on highly qualified people, especially those who understand that their learning is a lifelong journey, not a one-time certification. Given the growing mobility of people and the need for faster, smarter ways of recognising and certifying prior learning, passports for learning and skills are becoming an evident need. Tait (2018) acknowledged this, pointing to the need for collaboration and cooperation between institutions and nations, leveraging the national qualification frameworks developed by a great many nations to enable credential portability. Co-opetition, where institutions both compete and collaborate so that they can all leap forward together to have a greater impact (Brandenburger & Nalebuff, 1997), is also essential for the future. Collaborating for shared program development, on the deployment of GenAI for teaching, learning and assessment, or co-designing placements for work-based learning offered in a range of jurisdictions will be a growing feature of the future, building on many examples currently operating, where universities collaborate for mutual benefit.³⁴

Finally, *mega-universities are populated by exceptionally knowledgeable, skilled, and able people*. There is a need to unleash their creativity and innovative capacities. The strategic university will be one that is risk taking, innovative, and continuously improving. Using

³⁴ MOOCs provide one example; in 2021 Coursera, edX and FutureLearn offered 69 degrees and 1,570 micro-credentials from universities around the world.

Clayton Christensen's idea of disruptive innovation (Christensen et al., 2008) the innovative university will develop an understanding that their competitive advantage will shift from teaching and course creation to assessment and the accreditation of learning. This shift will secure leadership in the 'shapeshifting' interface between work-based learning and university learning, using work-based learning accreditation. 'Business as usual' will become increasingly *unusual*, as more situation-based learning takes hold.

A caution: 'The future ain't what it used to be!'

A difficult transition time for universities around the world is inevitable, especially for those that operate at scale. A university president once remarked that trying to turn around a university was 'like turning around a supertanker in a dry dock.' As Paul (2024) observes, leadership has always been demanding, but it is especially difficult in a volatile, uncertain, complex, and ambiguous world.

To make matters still more challenging, most efforts of transformation and change fail, sometimes spectacularly (Hidalgo, 2015; Burnes, 2011). Vice Chancellors and Presidents often have to fall on their sword when such failures occur. In 2018, for example, at the OUUK, proposals were made to cut £100 million from the annual budget of £420 million and to cut course offerings by a third with consequent significant staff redundancies. The proposal was rejected by the governing body and the Vice Chancellor left the university. This story is repeated in many institutions in almost every nation in the world.

The major reasons for the failure of efforts to transform universities include: a) a failure to help stakeholders understand the need for change, based on the evidence-base for the proposition; b) lack of trust in those leading change, essentially a clash of values between different stakeholder groups (Burnes & Cook, 2012); c) disagreement amongst the change team and a failure to effectively communicate; d) an inability to share a clear picture of the future university and how it would be different from the present; and, e) a failure to understand the emotional, non-rational impact of the change for those who work at the institution (Burnes, 2011).

One problem leaders face is caused by settling for incremental improvement, that is, change through slight but continuous adjustment. This inevitably creates a growing gap between what a university might become, and what it is. The pace of change simply does not keep up with possibility or respond quickly enough for the dynamic context universities are in. Slow, easy incrementalism is a recipe for a permanently failing organization (Meyer & Zucker, 1989) and creates the space for new entrants to build market a strong presence. Indeed, if GenAI achieves what many suggest in relation to

higher education, GenAI-enabled learning will become the mega-learning opportunity of the next decade.

One very successful change at scale for a mega-university institution occurred at Tecnológico de Monterrey in Mexico. The university developed a personalised learning strategy which leverages project-based learning and technologies, based on a competency and challenge-based model for teaching and learning.³⁵ It took several years to complete the journey from a conventional course-credit classroom system to its community embedded learning model, and now other institutions around the world are seeking to replicate it. The key to understanding the model is to see it as a means for developing and maintaining agile responses to the real challenges faced by those who live in the 33 cities the institution operates in. The model is based on seeing learning not just for a credential, but as a process intended to develop student agency through social, economic and environmental impacts.³⁶

Conclusion

Universities are becoming key actors in the economic, cultural, and social transformation of cities, influencing economic growth, attracting investments, and improving the quality of life in local communities. They have always played this role (Murgatroyd & Thomas, 1974), but it is now becoming increasingly important; the future wellbeing of communities relies on the research intensity and highly qualified people universities graduate (Murgatroyd, 2019). The bigger universities are, the greater the impact they can have if they focus their research and ensure the quality of their teaching and assessments. The old saying, ‘if you do what you always do and expect different results is a sign of insanity’ holds true here. To achieve the outcomes now expected of mega-universities, especially in terms of socio-economic and environmental impact, they will need to change in significant ways: less but better research, innovative models of teaching and learning that leverage GenAI, authentic assessment on demand and a strong focus on competency-based learning. All of these requires change at a systems and culture level, so that the universities become more agile and adaptive. This will require courageous leadership, sadly lacking in many universities around the world.

Copilot summary

This chapter explores the evolving landscape of mega-universities. It highlights the shift towards online education, the challenges of demographic changes, financial constraints, and the impact of emerging

³⁵ For a description, see <https://tec.mx/en/tec-model> (accessed 4 August 2025).

³⁶ For a detailed review, see <https://www.sasaki.com/projects/tec-21-reinventing-the-21st-century-campus/> (accessed 4 August 2025).

technologies including GenAI. The chapter discusses the need for agile governance, the importance of equity and inclusion, and the role of universities in economic and social transformation. It presents four future scenarios for mega-universities and emphasises the need for courageous leadership and innovative strategies to navigate these challenges.

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Stephen is a Fellow of the British Psychological Society and a Fellow of the Royal Society for Arts & Manufacturing. For his pioneering work in e-learning, Stephen was awarded an Honorary Doctorate by Athabasca University (2000). More recently, he was awarded the King Charles III Coronation Medal for his lifelong services to higher education. He lives and works in Edmonton, Alberta and teaches future studies to graduate students in the Faculty of Education at the University of Alberta.

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CHAPTER 2.5

Mega-universities and strategically *open-ing* education

Mark Nichols



“Becoming a mega-university may well be as simple as meeting learner- and learning-oriented demand in ways that less open institutions cannot. Designing more openness across the four facets of openness into the university operating model is the strategic opportunity afforded to all university leaders.”

In 1996, when Sir John Daniel published *Mega-universities and knowledge media* (Daniel, 1996), all 11 mega-universities were open or distance universities. Of course, the criteria adopted in that mega-universities had to be based on a distance teaching model, so all institutions might be considered ‘open’ in that they reduced barriers to access by offering a part-time opportunity to study.

From *this* volume, though, we see that contemporary mega-universities need not be traditional open and distance education universities that have passed a certain enrolment threshold. The rise of Southern New Hampshire University (SNHU; see chapter 3.1 in this book) demonstrates that ‘mega’ status need not rely on an institution’s heritage. The traditional values and mission of open and distance education are no longer the sole domain of open or distance universities as understood 30 years ago.

I am reminded here of a pivotal article by Sarah Guri-Rosenblit some ten years after *Mega-universities and knowledge media*, establishing that e-learning and distance education are not the same thing (Guri-Rosenblit, 2005). It is time for us to fully admit that mega-universities and large open universities are also not the same thing. *Any* university, regardless of heritage, is now able to design education models that mirror those of traditional open universities and gain ‘mega-university’ status.

However, any university seeking to become a mega-university will likely find itself mirroring the core educational model of open universities and classic distance education practice. Whether the emergent model is called ‘blended,’ ‘hybrid,’ ‘smart,’ or (as in the case of SNHU) ‘online,’ available, inclusive, scalable, and sustainable higher education

practice relies on the sort of thinking and theory that open universities have exemplified for at least 50 years.

Openness

The concept of ‘open’ education has recently undergone some critique (Nichols 2024a, 2024b). Coincidentally, this critique coincided with an opportunity to keynote at the 2024 *International Conference on Building a Learning Society through Digitisation of Open Education* hosted by the Open University of China (OUC); I used the opportunity to ask and address the question, ‘How open is an open university?’ The keynote caught the attention of Professor Junhong Xiao, who kindly requested I submit the keynote script as an article for the *Journal of Open Learning* (Nichols, 2025), which Junhong generously translated into Chinese.³⁷ This chapter seeks to bring the observational and suggestions from that article into mega-university consideration.

The new purpose of the International Council for Open and Distance Education (ICDE), in its Strategic Plan 2025-2028, is to ‘shape inclusive, scalable and sustainable education’.³⁸ Specific promotion of open and distance education is now secondary to the over-arching objectives of inclusivity, scalability, and sustainability. That mega-universities need not have an open university heritage does not make the concept of ‘open’ irrelevant. Rather, thinking in ‘open’ terms can provide mega-universities, and wannabe mega-universities, strategic options for further growth.

For a mention of how the ICDE Strategic Plan varied somewhat from the keynote at the OUC delivered one week *after* the ICDE planning day, see footnote 4 on p. 6 of this book. My thinking as I prepared the OUC keynote suggested four facets of openness: availability, inclusivity, scalability, and sustainability. The ICDE strategy essentially combines accessibility with inclusivity. I will apply the four facets in this chapter, so as to better represent the strategic options available to mega-universities.

It is important to note that openness has a demand-centred core, in contrast to the more supply-centric, teaching models most universities have (Nichols, 2020). Becoming a mega-university may well be as simple as meeting learner- and learning-oriented demand in ways that less open institutions cannot. Designing more openness across the four facets of availability, inclusivity, scalability and sustainability into the university operating model is the strategic opportunity afforded to all university leaders.

³⁷ I am happy to provide anyone interested in the English version to contact me, though the main thrusts of the article are included in this chapter and some elements are copied and pasted.

³⁸ <https://www.icde.org/wp-content/uploads/2024/09/Final-ICDE-Model-and-Strategic-Objectives.pdf> (accessed 4 August 2025). My preference for ‘available’ in addition to inclusive, scalable, and sustainable is further explained in footnote 4, p. 6 of this volume.

Four facets of openness

The four facets of openness cross both student and institutional considerations. The first two, available and inclusive, reflect student interests. The other two, scalable and sustainable, better reflect the interests of the university.

- *Available* education gives students the ability to access learning of interest to them when and where it suits them. Availability is considered in terms of when an enrolment period starts and ends, the flexibility afforded students within those dates, and the range of programme options available. Included here are level and subject choice, and enrolment and programme flexibility.
- *Inclusive* education makes it increasingly possible for anyone to participate, whether challenges of disability, geographic remoteness, life commitment, representativeness, or other special study need are faced.
- *Scalable* education is able to cater for a broad range of demand and reach, whereby an increase in demand or extended reach can be catered for in a time- and cost-efficient way, and a reduction in demand can be temporarily absorbed.
- *Sustainable* education is characterised by a low carbon footprint, long-term financial viability, alignment with demand, and social relevance alongside a quality, reliable service. Where education is government subsidised, sustainability also considers the institution's alignment with funders' priorities.

As is clear from these definitions, each facet is less a binary and more a matter of degree. It is wrong to describe any university as 'not inclusive' or 'inclusive;' all are both to some extent.

The four facets of openness give universities opportunity to reflect on key strategic issues from the student and institutional perspectives. Consider these, as a means of self-reflection:

Availability

- How broad is the range of study options (qualifications and subject areas) we make available to students?
- How possible is it for a student to start studying at any time that suits them?
- To what extent might students opt to submit an assessment, and have it quickly marked, when they have opportunity to across their other life commitments?
- What are the limits enrolled students face in accessing opportunities to learn at times that suit them?
- What is our choice of credit awards and course sizes, from micro-credentials through to high credit-bearing options?
- What is our range of options for students wanting to stay at any level, from entry-level bridging course to higher education through to PhD?

Inclusiveness

- How geographically representative is our reach, across our country of representation?
- How personalised is our teaching and learning model, that is, to what extent is our model one that ‘offers more support where more is needed, that draws on each individual’s experiences and perspectives, and emphasises feedback’ (Nichols, 2020, p. 5)?
- To what extent does our portfolio of qualifications align with students who might be interested in academe, work, or simply enriching life (Barnett, 2022), as study options?
- What is our proportion of minority students (as defined by the university’s context), and how well are we representing them?
- What provisions are made for those students who have disability, including across sight, audial, mobilisation, and mental health spectrums?
- What requirements do we place on students to collaborate with others?
- What time requirements do we place on students for the purposes of study in terms of attendance or timetabling?
- Who is our typical student, and to what extent do they demonstrate that everyone is welcome?

Each of these questions (and there will be more, specific to each open university) is an important determinant of open-ness from a student (and would-be student) perspective.

From the university perspective, these questions are helpful starters:

Scalability

- How deliberate and efficient are our administrative functions, in the sense of being optimally designed to flow evenly (without peaks and troughs)?
- How does our fiscal planning protect us from above-average and below-average demand?
- How easy is it for us to add to, and close, academic programmes?
- How well does our internal analysis and reporting update us with key metrics?
- To what extent does our cross-subsidisation protect us from unequal enrolments?
- What effect would a sudden influx of enrolments have on our ability to cope, across our administrative and academic functions?
- What is our general appetite for (based on our experience of) internal change and innovation?
- What is the relationship between fixed and variable costs, across our teaching and learning model(s)?
- What is our planning for and response to a large financial surplus? And loss?
- What would our response be across administrative and academic functions to a sudden drop in demand?

Sustainability

- How aligned are we with the priorities of funders and national stakeholders?
- How balanced is our academic portfolio, in terms of maturity, national priority, new opportunity, and student interest and performance?
- How disciplined is our budgeting and cost sensitivity?
- How environmentally friendly are our operations?
- How firm are our operational foundations as a springboard for further growth?
- How robust is our Information Technology (IT) infrastructure?
- How secure is our IT infrastructure?
- To what extent are our innovations and changes steering us to a more sustainable future?
- To what extent are we purposefully innovating toward new technologies, responding to their promise alongside the challenges they bring?
- What is our performance against the standards of excellence imposed upon us, even those that we may not subscribe to?
- What is the state of our overall course and general asset maintenance activity?
- What is the state of tools available to our staff to assist their productivity?

Other questions are also possible across these four facets, but careful reflection and agreement across the answers to these will provide a sufficient reality-check for those who might consider their universities more ‘open’ than they really are. Diagnosing one’s own university in this way should suggest some interesting strategic opportunities.

Earlier, it was stated that each facet is more an item of degree, rather than a binary. The format of the questions listed above show why this is the case; none will provide a simple ‘yes’ or ‘no’ response. Instead, drawing on the metaphor of openness, we might consider each of these questions in terms of how we might describe how open a door is: closed, ajar, passable, or wide-open (Figure 2.5.1).



Figure 2.5.1: Closed, ajar, passable, and wide-open doors

A *closed* door has no open feature to it whatever. An *ajar* door is, technically, open, but is not functionally open in that not all will be able to squeeze through it. A *passable* door might be open enough to walk through but needs some navigation to enter; the

openness still needs some accommodation. A *wide-open* door offers no constraint; however, as we will see, it is not always strategically wise to be wide open.

If we consider the questions applying the metaphor of how open a door might be, we not only become better at self-diagnosis; we are also able to discern some strategic avenues for achieving still more openness. This should, in turn, create more opportunity for students and enhance the university's provision in ways that are available, inclusive, scalable, and sustainable. It should be clear by now that the objective is not growth for its own sake; as universities are able to expand their development across the four facets, achieving and extending mega-university status becomes a by-product.

Strategic options

There are many models that might be applied for strategic planning. A personal favourite is that of Rumelt (2011), who defines three elements as forming the kernel of a good strategy, which in turn provide logical steps for strategy development and implementation:

1. A *diagnosis* that defines or explains the nature of the challenge. A good diagnosis simplifies the often-overwhelming complexity of reality by identifying certain aspects of the situation as critical.
2. A *guiding policy* for dealing with the challenge. This is an overall approach chosen to cope with or overcome the obstacles identified in the diagnosis.
3. A *set of coherent actions* that are designed to carry out the guiding policy. These are steps that are coordinated with one another to work together in accomplishing the guiding policy (Rumelt, 2011, pp. 77-78).

The questions already presented assist in the diagnosis. The next few pages (Tables 2.5.1 and 2.5.2) provide a suggested framework for answering these questions in the format of the door metaphor.

To complement the diagnosis, mindful that I claim no comprehensive knowledge of mega-universities, there are certain opportunities for all, particularly open, universities that should be directly considered alongside the development of the matrix of openness (this list begins on p. 157). These come from my experience, conversations I have had with global experts, and previous deliberations (Nichols, 2020). The list of possibilities here ought to be considered by any open university seeking to extend its potential for more open-ness, as part of the diagnosis process.

A matrix of openness (student view, illustrative samples only)

STUDENT VIEW	Closed	Ajar	Passable	Wide
Availability				
<i>Range of study options</i>	Limited courses across single domain	Courses across limited domains	Limited courses across broad domain range	Many courses across broad domain range
<i>Anytime start</i>	Single offering annually	Few offerings annually	Multiple offerings annually	Regular offerings at student convenience
<i>Anytime study</i>	Fixed semesterised timetable	<i>Closed</i> , with streamed and recorded classes	<i>Ajar</i> , with flexible assessment due dates	Fully asynchronous study, with flexible due dates
<i>Flexible awards</i>	Fixed course choice within awards	Limited course choice within awards	Full course choice within award domains	Full course choice across award domains
<i>Programme choice</i>	Limited programmes across few levels of study	Limited programmes across broad levels	Range of programmes across few levels of study	Range of programmes across broad levels
<i>Other...</i>				
Inclusiveness				
<i>Geo-spread</i>	Regular attendance requirements, single site	Regular attendance requirements, multi-site	Irregular attendance requirements, multi-site	No physical attendance requirement
<i>Everyone welcome</i>	Exclusive entry requirements	Entry requirements typical to region	No entry requirements but limited on-boarding	No entry requirements, full support
<i>Minority inclusive</i>	No minority awareness or acknowledgement	Some minority allowances made across services	Major allowances for minorities across services	Caters for minority groups on their terms
<i>Personalisation</i>	Fixed asynchronous materials	<i>Closed</i> , with some tutorial support	<i>Ajar</i> , with regular tutorial support and feedback	Equivalent of full Socratic experience
<i>Student profile</i>	Generic demographic, already well served	Good cross-section of society and nation	Complete demographic match with nation	Exceptional student profile against those well served
<i>Other...</i>				

Table 2.5.1: Matrix of openness examples for Availability and Inclusiveness

A matrix of openness (university view, illustrative samples only)

UNIVERSITY VIEW	Closed	Ajar	Passable	Wide
Scalability				
<i>Administrative functions</i>	Complex, ad-hoc systems with exceptions	Standard systems with many exceptions	Optimised systems with few exceptions	Streamlined, able to deal with large volumes
<i>Programme adjustment</i>	Rigid portfolio, no new programmes can be opened or closed	Some flexibility across new and closing programmes	Bureaucratic yet effective programme adjustment	Full flexibility for programme adjustment
<i>Internal analysis and reporting</i>	No access to reliable data for key metrics	Some data and/ or limited capability for analysis	Regular reporting possible with some effort	Regular reporting possible over curated data sources
<i>Fixed and variable cost mix</i>	High variable costs of service	Some variable costs absorbed as fixed	Manageable fixed cost base with lower variable	Intentional spread of high-value study options
<i>Surplus-minded</i>	Deficit budgets continuously anticipated	Break-even focus, limited discipline	Surplus focus, good financial discipline	Highly disciplined approach to surplus
<i>Other...</i>				
Sustainability				
<i>Funder and stakeholder alignment</i>	We do things our way, to our priorities	Some consideration and alignment	Mostly aligned with funders and stakeholders	Completely aligned with stakeholders and funders
<i>Budget discipline</i>	Budgets lightly set, with little accountability	Budgets set but overspends frequent	Firm budgets set with little exceptions	Strict delegations with overspend by agreement
<i>Operational functions</i>	Taken for granted, fixed as needed	Changes to functions based on problems	Proactive functional reviews and improvement	Total control, optimized systems and processes
<i>IT infrastructure</i>	Legacy infrastructure, lacks investment	Light oversight, mild investment	Well budgeted, left to be reliable	Deliberate nurturing, high level representation
<i>Maintenance activity</i>	Maintenance in response to emergency	Maintenance scheduled but constantly deferred	Maintenance scheduled and adhered to	Proactive maintenance to prolong asset life
<i>Other...</i>				

Table 2.5.2: Matrix of openness examples for Scalability and Sustainability

These options readily align with open education as an available, inclusive, scalable, and sustainable practice:

- Deliberate re-use of courses across different qualifications and programmes (more student options through fewer new courses).
- Digitisation of courseware and student support (enabling further analytically informed intervention).
- Ensuring Intellectual Property (IP) and copyright of materials rests with the university, as much as possible, and preferring university or open resources over third-party ones (to provide as much owner flexibility as possible).
- Fresh engagement with funders and national stakeholders to better align with their priorities (whose interests likely align with further open-ing education).
- Making study pace options available, such that students might take on study loads that enable serial full-time study rather than having to do multiple courses in parallel (a lighter cognitive load for students, removing potential overlap of assessment due dates).
- Maximising asynchronous learning options (increasing the opportunities for openness across availability and inclusiveness).
- Placing more of the teaching and learning activity in well-designed course materials (reducing variable costs associated with tutoring).
- Providing both large and small course options (in terms of credit for study), as smaller building blocks available separately or bundled into larger credit courses.
- Purposeful implementation of Generative Artificial Intelligence across key components of the learner journey (ensuring the benefits of the latest technology are harnessed).
- Standardising administrative functions and processes as much as possible (reducing the fixed cost structure and providing more institutional agility).
- Standardising IT solutions (as above).
- Vertical (lower- and higher-level qualifications in the same subject area) and horizontal (a wider range of qualifications at the same level of study) qualification portfolio planning, providing more student options for study building on existing expertise.

The purpose of the overall *diagnosis* activity is to spread open-ing out in its fullest possible way, to bring focus on the four facets of open-ing as expressed by the university as broadly as possible.

Rumelt's *guiding policy* ought to be centred in the university's stated mission statement. There are various options across Tables 2.5.1 and 2.5.2 that might immediately appeal as being compatible with what the university has always aimed to stand for. One further suggestion: a guiding policy approach should be clear that the objective is not to be *entirely* open across all possibilities. The potential for open-ing is highly complex and interconnected, and some elements of open-ing will be mutually exclusive, in that opening one of the four facets will compromise the openness of another. Some aspects of open-ing might also be better suited to some student bodies than others; to take an example, open-ended assessment due dates may be disastrous for new students, but

entirely appropriate for motivated students doing their last courses. The objective is not a *complete* open-ing, rather *deliberate* and *coherent* open-ing.

The *coherent action* component proposed by Rumelt is where intentions become interventions. Rumelt explains that

Strategy is about action, about doing something. The kernel of a strategy must contain *action*. It does not need to point to all the actions that will be taken as events unfold, but there must be enough clarity about action to bring concepts down to earth. To have punch, actions should coordinate and build upon one another, focusing organizational energy. (Rumelt, 2011, pp. 87 – 88).

Strategy is not just a set of intentions. Properly considered, strategy includes the action it generates. It should lead to more open-ing as determined by the guiding policy.

Note the importance of the word *coherent* used above. Rather than selecting a grab-bag of improvements across the matrix of openness, a cluster of related improvements targeting one of the four facets is likely best. The saying, ‘as one door closes another opens’ has some relevance here, as all doors of open-ing are ultimately connected. Swinging one wider open may force another to slightly close.

Increasing open-ing across an institution is typically more difficult than might be at first imagined. For this reason, depending on the ambition of the change, it might be preferable to begin a gradual adoption (Nichols, 2022) or else set up a separate ‘skunkworks’ or parallel centre of operations to provide prototypes and proof-of-concept for new forms of open-ing.

Coherent action will likely require adjustment to the university’s operating model, which is best deliberately planned and executed with dedicated change management in place (Nichols, 2020, 2022). The level of change required, that is, the extent to which the change is concerned with the university’s operational context or limited to a single component, will determine the type of team to involve and the level of oversight required (Table 2.5.3).

Level of Change	Focus of process change	Team requirement
<div>Context</div> <div>↕</div> <div>Component</div>	<i>Business model</i> with changed process	Autonomous team of cross-function experts
	<i>Process architecture</i> change (sequence and steps)	Heavyweight team of cross-functional experts
	Adjusted <i>interface of process steps</i> in time and space	Lightweight team of cross-functional experts
	Improvement of <i>individual steps</i> in process	Functional team of independent experts

Table 2.5.3: Relationships between the type of task and team type (based on Christensen et al., 2011, p. 213).

The ‘Focus of process change’ column here indicates the form of documentation that may be required to evidence and reference the change. For example, a ‘*Business model with changed process*’ might involve revisiting an organisation’s business model canvas; an ‘Adjusted *interface of process steps* in time and space’ might involve a flow diagram, showing revised process steps showing the time each step takes and the physical or virtual space the process steps flow through. Process architecture is a vital means of designing and cementing coherent actions as the final component of strategy.

Strategic conundrums

Becoming increasingly open may not lead to becoming mega; after all, many institutions face funding and growth limitations that are not changed by swinging the doors out further. The point, after all, is not necessarily increased size; improving availability and inclusiveness are desired by students, scalability and sustainability are central institutional goals that represent improvement in themselves. However, any university with the potential to benefit students and itself through added enrolments will find much to consider in this chapter.

Strategy, though, is ultimately a conundrum. Open education is based on a series of inherent dilemmas, underscoring the need to be strategically deliberate as more openness is pursued. Consider this list, from a LinkedIn post (Nichols, 2024c), where I propose that open-ing involves finding a ‘sweet spot’ across operational pressure points.

- *Convergence with Differentiation* | *Differentiation with Convergence*: How do we maintain a coherent model, while also diversifying for different learner groups?
- *Inclusiveness with Scalability* | *Scalability with Inclusiveness*: How do we reach priority learner groups that might not meet our normal financial or funding models, without compromising growth?
- *Quantity with Quality* | *Quality with Quantity*: How do we both serve more learners, and improve our quality at the same time?
- *Personalisation with Scalability* | *Scalability with Personalisation*: How do we provide education for the many needing it, while still catering for individualised success?
- *Digitisation with Humanisation* | *Humanisation with Digitisation*: How do we best leverage technology, while also maintaining real people contact?

University strategy is itself a difficult activity, and the situation now facing open universities around the world is urgent (Tait, 2018). But, as this chapter has sought to establish, open institutions must take heart and approach the future with the assurance that their underlying operating model provides a distinctive advantage.

The fundamental question facing all open universities is this: who are we open for? This provides them with their *relevance*. The next is, how open are we? This provides them with their *strategic opportunity*. Let these questions inspire courage, creativity, innovation,

and purpose in the pursuit of strategy. Open universities have a continued role of importance in higher education across all countries, and with sufficient analysis, ambition, and direction they can continue to role model available, inclusive, scalable, and sustainable education. After all, ‘Academic leadership is the art of the *impossible*’ (Barnett, 2022, p. 187).

Copilot summary

This chapter explores the evolution and strategic opportunities of mega-universities. It highlights that contemporary mega-universities need not be traditional open and distance education institutions. Instead, any university can achieve ‘mega’ status by adopting open education models that focus on accessibility, inclusivity, scalability, and sustainability. The chapter discusses the four facets of openness and provides strategic frameworks, with a broad range of options, for universities seeking to enhance their openness and achieve growth while maintaining quality and inclusivity.

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Author profile

See author profile on p. 9.

Section Three:

CASE STUDIES

CHAPTER 3.1

From small residential to mega-university: the story of SNHU

Paul LeBlanc



“They were juggling work and family and so were having to squeeze study in already very busy lives. They had little capacity for making their lives work within the rigidity and needs of a university; they needed the university to work around their needs.”

I am often asked to tell the story of Southern New Hampshire University (SNHU), which had a total enrolment of only 2,800 students when I arrived there as president in 2003. Most of those students were enrolled in the residential campus, taking all of their classes in a traditional face-to-face format. Only a few hundred students were enrolled in fully online, asynchronous programs. By the time I stepped down from my role in June 2024, SNHU had become a far different institution. While the traditional campus volume remained about the same size, SNHU’s online enrolments have become significant.

How significant? In September 2024, Phil Hill, a well-known education technology industry analyst, wrote:

If we look at the top institutions by total enrolment, segmented by DE [distance education or fully online] type, we see that **Southern New Hampshire University (SNHU) has further cemented its lead over Western Governors University (WGU) as the largest US higher ed institution.** SNHU has 251 thousand total students compared to WGU’s 237 thousand, compared to three years ago when WGU had 190 thousand students and SNHU 168 thousand. For exclusive DE students, SNHU is first, closely followed by WGU and then the former largest institution, the University of Phoenix, then Grand Canyon University, and Liberty University. (Hill, 2024, para. 7; emphasis original).

In the 21 years of my presidency, we had become a mega-university – the largest in the United States. As I write in late 2024 SNHU just had the largest term start in its history,

enrolling a record 25,000 new students in the most recent of its six annual undergraduate terms (most schools have only two).

The SNHU of 2024 bears little resemblance to the SNHU 2003. Back then, we were hardly known outside of our hometown of Manchester, New Hampshire (just one hour north of Boston). Since its founding in 1932, SNHU was a nonprofit institution that had always catered to working class and first-generation young people. It had almost no brand recognition, no real status, little in terms of endowment or cash reserves, and a tired campus. But it had two assets that I treasured as a newly arrived president: it had a history and mission of serving working people often ill-served by more traditional universities, and so a widely shared dedication to student success; and it had a small online programme when few other nonprofits deigned to consider such a model of delivery.

Indeed, by 2003, traditional nonprofit institutions continued to look down their noses at online learning, thus creating a vacuum into which rushed for-profit providers. Kaplan University, DeVry University, Corinthian Education, ITT, and the behemoth Phoenix University, the poster child of for-profit providers with close to 500,000 enrolments at its height, are all examples. By the late 2010s, for-profit institutions educated 12% of all post-secondary students in the United States. But many, some would say most, fell into disreputable and often predatory recruitment practices to satisfy their investors' expectations for continued growth. In 2019, the University of Phoenix had to pay a whopping \$US191 million settlement with the Federal Trade Commission over misleading advertising and recruitment practices. Even in 2003, those questionable recruitment practices, high student loan default rates (50% of all student loan defaults came from that 12% of students enrolled in for-profit institutions), and poor outcomes continued to draw the attention of regulators and an increasingly sceptical news media.

Given SNHU's focus on nontraditional learners, the students generally served by online programs, and by our own modest online program (it had only 18 staff members at the time), I saw an opportunity for growth while the for-profits were back on their heels. With my background in technology and education, I had been studying the operations of the for-profit online providers. I had also visited the Open University, United Kingdom (OUUK) to understand how it operated at scale, especially its model of centralised course and programme development. In my previous presidency at the much smaller Marlboro College in the foothills of Vermont, I had created new low-residency hybrid programs using the disruptive innovation ideas of my longtime friend Harvard Business School Professor Clayton Christensen, as outlined in his seminal 1997 book *The innovator's dilemma* (Christensen, 1997). Looking at SNHU's razor-thin surpluses when I arrived, I saw a chance to extend our mission, while also increasing revenues, if I could expand our online activities.

Learning to walk before we ran

I had learned enough before arriving at SNHU to know that the existing online division was not yet ready for growth. We didn't have the right systems, processes, offerings, or people; that was largely the case because the online division was not really built to answer the question 'What do working adults need to be successful?' Of course, every single staff person cared about the students we served, but the question they had organised around was, 'What will satisfy the traditional campus faculty that we are providing a quality education?' An enormous amount of energy was spent in placating campus faculty who were, like most of their peers in nonprofit higher education, sceptical of online education. As a result, most operating decisions and processes flowed through the campus faculty, from hiring and programme and course approvals to policy approvals. The business ran at a leisurely, even glacial pace. Every faculty member teaching an online course created his or her own version of the course, meaning there was little consistency or quality assurance across the offerings. Worse, many of the policies and processes served students poorly. So, I knew I had to disrupt that existing model and that I'd have to start with culture. I needed a team that singularly focused on students.

The first thing I did was rent space in one of Manchester's old industrial era mill buildings and move the team there. I wanted them out of sight and out of mind (I hoped) from the campus faculty. The new environment also encouraged the team to work together, as formerly the staff preferred to be alone in individual offices with doors closed. In the new space there were almost no individual offices, and the ones we allowed had glass walls and no actual doors. There would be no more hiding! Culture starts from the top, and while the man heading the unit was very smart and affable, he was not the right leader. I eventually brought in Yvonne Simon, an imaginative educator who had experience in the business world and a real skill for designing learning models. Together, we began to transform the team and turned our attention to reinventing the delivery model, setting the foundation for what we would later scale.

We started with our core value proposition. Traditional-age students want two things from a university: an education leading to a credential that will start them on a good career path, and a 'coming-of-age' experience. They almost take the education for granted, but are keenly focused on getting out from under their parents' watchful eyes, joining an intentional community of peers like them (or of a type to which they aspire), figuring themselves out (and maybe also the meaning of the universe), falling in love, enjoying their freedom, and exploring the world through things like study abroad and clubs and other activities. We lumped all of those desires under a general category of 'coming of age.'

The ‘Four Cs’

In contrast, as we studied who enrolled with us online, we found students who certainly wanted a meaningful credential, but the majority were in their early 30s with kids working in a dead-end job. Many were military veterans. A majority had tried university before, but life got in the way, or they ran out of money, or they just weren’t ready for it. Now life was sending them back to study because they needed to unlock an opportunity. They already had all the coming of age they could handle. They had other priorities, which we came to call the ‘Four Cs’:

- *Completion time.* They were feeling urgency, so valued anything that could get them to graduation sooner.
- *Convenience.* They were juggling work and family and so were having to squeeze study in already very busy lives. They had little capacity for making their lives work within the rigidity and needs of a university; they needed the university to work around their needs.
- *Cost.* They were coming back to university because they were feeling economically squeezed, so they needed an offering they could afford.
- *Credential.* They needed to know that the degree they earned would make a difference in their lives. They did not have the luxury of multiple attempts to get it right.

We would, much later, place this kind of analysis within a conceptual framework called Jobs-To-Be-Done (JTBD) theory, outlined in the book *Competing against luck: The story of innovation and customer choice* (Christensen et. al., 2016). At its core, JTBD argues for a shift of focus from the supply side (what we want to design and offer to students) to the demand side (what students need from us, or, to use JTBD language, ‘the job they want us to do for them’). Such a shift in perspective is largely rare in higher education, where students apply *and are made to feel lucky* if accepted, where they learn on *our* terms, not theirs, and where our experts often *valorise hardship and struggle* as a necessary part of the process, no matter the degree of hardship and struggle learners already face.

Yvonne and I led our newly formulated online team in an exercise of redesign, which I consider foundation-setting for the growth and scale that came later. In one momentous meeting, we gathered the entire staff in front of a whiteboard, and I asked them to walk me through the steps students needed to complete from their initial expression of interest in a program, to matriculation, and to the first day of class. They talked and I wrote, asking for details and specifics. By the time we finished, the whiteboard looked like the schematic of a nuclear powerplant! It was a wonder anyone enrolled with us.

So, we embarked on streamlining and simplifying processes under the banner of *Convenience*, one of our Four Cs. As an example of the improvements we made: if a student had credits from prior learning, we would ask them to procure certified copies of those transcripts from their prior institutions. This usually meant them paying \$US10

for each transcript, and our students often had to source these from multiple institutions. However, our typical working student would get home after 5 p.m., long after registrars had closed for the day. Students then had to send in a bank or postal cheque because personal checks are not usually suitable, which meant a trip to the bank to get said cheque(s). Copying a move from the University of Phoenix, we changed the process to simply asking permission to get their transcripts for them. We even opted to pay the \$US10 fee, a practice we continue to this day.

Other changes we made in our operations included:

A shift to centralised production of online courses

We moved away from faculty member creating their own version of whatever online courses they might be teaching to an OUUK inspired function. Faculty were still engaged as subject matter experts (SMEs), but would now work with instructional designers, assessment experts, and content specialists to create one master version of any course (key to our later scaling). As we honed that system, we found we could create courses more efficiently (faster), at less cost, with more consistent quality. We could also add sections very quickly, because new faculty were no longer asked to create their own version of a course. Instead, new hires were handed the course they needed to teach. Of course, while faculty tended to enjoy the SME role, they often did not like being handed a pre-designed course to teach; so, many later stopped teaching in our online programme. This never became a problem for us, given the wide availability of adjunct faculty.

More convenient term times

We moved from the standard fourteen-week terms used on campus to eight-week terms, which have now become standard in online education. Students could then take one course at a time, a typical load they could better manage, resulting in greater student success and improved graduation rates.

Standardising credit transfer

We revamped our transfer credit policies, taking decision-making out of the hands of individual faculty and making our policy more accommodating of prior learning. That meant students often found themselves closer to completion than they might at other institutions, which typically accepted fewer of their credits.

Lowering cost to students

Our tuition rate was intentionally on the low side compared to other providers, particularly the for-profits that still dominated the market. In the years that followed, as everyone else regularly increased their tuition, we held ours steady. We went more than ten years before even a modest increase, effectively improving our competitive edge from a cost perspective year after year (*Cost* being another of those Four Cs).

Improved student service

From studying the for-profit competition, we knew the slow and leisurely admissions process we had adopted from our campus practice would not suffice. Online students often only engage with one or two possible providers before making their decision. We learned about ‘speed to lead’ and the importance of proactive contact, which our initial team hated; they were uncomfortable calling prospective students at home and weren’t good at it when they tried. So, we outsourced our inquiry management (essentially our admissions service) to an external company (Enrollment Services Management), which we paid to handle the admission process. They are very good at what they do, and so we began to slowly grow.

None of these improvements sound particularly innovative or exciting (they are certainly not intellectually stimulating) but getting the underlying systems and processes right before trying to scale is imperative. This work never actually ends, because these systems and processes must continue to evolve alongside changing student needs, regulatory shifts, advances in technology, and moves by the competition.

I am often asked how we managed to get faculty support for all the changes we were making. Our regular full-time faculty had enjoyed a lot of control over our online offerings, and many were loath to relinquish what they saw as their rightful purview. However, the recession of 2009 was hitting us hard, and we had made cuts to traditional programmes which included a freeze on new faculty hires (there were also a handful of cuts to faculty). I made the case that if the faculty would allow us more latitude to expand our online programme offering and to move faster (essentially by getting out of our way), we would be able to weather the financial storm and avoid any more cuts to programmes and faculty positions. This led to a critical reworking of governance that preserved the faculty’s voice in online programming, including a new process for raising and resolving issues, but allowed us to move faster and more ambitiously.

The other carrot we offered was a promise that our eventual success in online would be shared with the traditional campus, a promise we made good on with new buildings, increased salaries, and more. Alongside those carrots we evoked, delicately, a bit of a stick. We let it be known that if the faculty dug in its heels and continued to hamper our plans, we would separately incorporate our online division, and they would have no role whatsoever in that new arm of the university. While there were some faculty members who were very unhappy about the changes we successfully put in place, the process was not contentious; we made good on our promises, and our faculty have benefited mightily from our success with online programmes.

Supporting our online students

One other really important shift took place in those early years, a shift that differentiates SNHU to this day. Amelia Manning, a student advisor on the original team I inherited and among a handful of staff who stayed through those early changes, rose through the ranks to become Yvonne's right-hand person. With a background in counselling, Amelia became the architect of our coaching model, which assigns an academic advisor to a student for the entirety of their time at SNHU.

A student goes from course to course and thus instructor to instructor every eight weeks. There is no continuity of relationship. However, a student's advisor is in her corner right through until graduation. Our 'academic advisors' are, in reality, life coaches, often playing the role of cheerleaders, task masters, and even friends. Quite often, the real challenge our nontraditional learners face are those of self-confidence and isolation. As I wrote in my 2022 book *Broken: how our social systems are failing us and how we can fix them* (LeBlanc, 2022), we cannot transform a life if someone feels they do not matter to us. Our academic advisors make students feel they matter, and that makes all the difference. In some communities, our graduation rates are four to five times higher than other providers *serving the very same student*. Some of our success here is our focus on the Four Cs, but a lot of it is because of the reassurance and encouragement provided by that advisor who is always in a student's corner. Academic advisors are our secret sauce and their activities, often an afterthought or a mere bureaucratic function in many institutions, remains at the heart of our work today.

The work described here didn't happen overnight. Part of the challenge of pace was me being in a role with many other demands on my time, and when I started online education was only a small part of SNHU (even though I saw its potential). Conducting the analysis leading to the changes just described took about four years; we also had to hire the right team and move operations to the Mill Yard (industrial mill) premises. We were not yet an organisation able to move with speed and agility. It was nearly 2007 before we had the foundational work, if not done (it is never done!), at least enough in place to start thinking about growth.

Learning to run... Fast!

With our systems and processes much improved, the right leader and team in place, and a new-found focus on growth and student success, we started to invest more in marketing. I knew that for-profit institutions were better at marketing than nonprofits like my own, and that we needed what they knew. So, I turned to a recruiter who had never worked for a nonprofit university and asked him to find me someone. In 2009, I hired a new vice president for marketing: Steve Hodownes. Steve had been in the for-profit sector, and when I hired him, I told the Board of Trustees that he was just what

we needed. The Board was made aware that he would ‘break a lot of glass’ that I’d have to spend time cleaning up, and that at some point we’d likely decide he was no longer right for us. All of that proved to be true, but if Yvonne, Amelia, and I get the credit for creating the SNHU model, Steve deserves singular accolades for scaling it.

Steve built a top-notch marketing organisation and bought to us our first real glimpse of data analytics and data-driven decision-making. He stood up an in-house creative team, convinced us to do our first television commercials, and pushed us to rapidly expand our catalogue of programme offerings. Steve also hired others from the for-profit sector and built a team of experienced leaders that included developing a number of our internal people. Within two years, I made him the head of our online division, freeing up Yvonne to move to her next design project, which became the pioneering competency-based program we dubbed College for America. We were ready to hit the accelerator on growth. The global recession of 2009 was being felt accompanied by mass unemployment and, given that online enrolments are countercyclical with employment (enrolments go up when employment goes down), our online numbers started to climb.

In contrast, the recession hit our campus students hard. Competing residential colleges were aggressive in their tuition discounting, something we had not anticipated or counteracted. In late 2010, we faced a substantial decline in campus students and thus an operating deficit. Steve and I had been discussing expanding our marketing beyond New England, our home territory, and had started test marketing in areas around the country where we had no brand awareness (still pretty much everywhere outside of our immediate region). We had planned a year of such tests, and the early results were encouraging; we were generating inquiries in places like Milwaukee and Oklahoma City, halfway across the country. I saw in those early encouraging results a possible solution to our looming budget deficit.

At the late 2010 Board of Trustees meeting, I reported the projected deficit and asked to spend \$US2 million on increased broadcast marketing nationally, something we had not planned on doing, based on a scant ten weeks of testing. It was a moment where we had to find our courage, because if we were wrong an already bad operating deficit would be \$US2 million worse. We got the green light. As we ramped up our advertising, leads started to come in at a rapid pace. By January 2011, we were confident enough to go back to the Board and request a further \$US4 million; we had never spent anything remotely like that amount on marketing before. We scrambled to hire more people and launch more sections of courses to keep up with the growth. By the end of that initially troubling fiscal year, we had an \$US11 million operating surplus. It was an astounding success, and we knew we had an opportunity to do greater things.

Others took notice. In 2012 *Fast Company* magazine named us to the #12 spot in the World’s Most Innovative Companies List, citing our growth, aggressive embrace of

technology, use of data analytics, and creation of College for America (Boutselis, 2012). On a separate list of the list 50 largest nonprofit providers of online degrees that same year, we were at the bottom. By 2015, we were fourth from the top. Those three years were a rocket ride.

At the same time we were building a national footprint for enrolment and a reputation as a leader in online education, our for-profit competition was under assault from regulators. Corinthian Education was shut down in 2015, an event that vividly marked the decline of the for-profit sector. So, while we were doing a lot of things right, we also had the luck of good timing in terms of our competitors' struggles and students' newfound scepticism of for-profit education. During that time and long afterwards we ended every commercial with a reminder that SNHU was a nonprofit university. By 2015, we had grown from 8,034 students (in the FY2011 turnaround year) to 43,244. That \$US11 million operating surplus of 2011 had also grown to \$US62.4 million.

One major problem we faced during this time is that we didn't know how to scale. We were almost giddy with our success, but we were also breaking everything. We didn't know how to evolve our systems to support the of meteoric growth we were experiencing. We were hiring and onboarding 30 to 40 new full-time staff almost every week, so managers were spending all their time on procuring more talent. We couldn't buy, unbox, and configure computers fast enough. We leased more and more space in the Mill Yard. Steve, a genuine hero of this story, was also breaking glass (as predicted), angering the traditional campus community, especially the faculty (whom he held in ill-concealed disregard). In our drive for growth Steve's operating style, inevitably copied by his team, was to bulldoze over any internal resistance and push for growth. I was cleaning up a lot of the broken glass.

So, while so much was going right, the things that were going wrong caught up with us. In one fateful February meeting of the Board of Trustees, I had to report that we had fallen out of compliance with tax regulations, federal financial aid rules, and Title IX rules regarding equal support for men and women's athletics. In conversations with others who have led scaled enterprises I've learned that the journey is often marked by key inflection points, those moments when incremental change no longer suffices. We had reached one such point. Over the next eighteen-month period I took a number of steps to reset the organisation and move us from our institutional adolescence (a period of high energy and rapid growth, but also something bordering on clumsiness and maybe even recklessness in some ways), to what a mature, very large, and well-scaled organisation required.

Growing into maturity

My focus around this time was on cleaning up our messes, as a foundation to operating as a mature, well-run organisation experiencing continued growth. I asked Steve to stay on for one more year after he said he was ready to leave; I needed time to groom Amelia as his successor. I rebuilt the leadership team, bringing in a new head of Human Resources who had worked at a very large financial services company (and who was surprised that we didn't have even the basics in place, such as a talent procurement team, an onboarding team, or a modern human capital management system in place). I brought in a new head of IT from a big consulting firm to build a modern technology stack. We found a new head of Finance who had worked at the system level in state higher education. Steve had exhausted his marketing playbook, magnificently in my view, so we brought in a new head of marketing from outside the higher education sector, who had a more quantitative and digital marketing background. Our new hire set out to build one of the best marketing machines not only in higher education, but in consumer marketing across all sectors. We invested in our legal and compliance functions and spent a lot making sure we had industry leading compliance; year after year of absolutely clean financial aid audits is testimony to the success of this emphasis.

At a later dinner with the Board of Trustees in 2016, I shared that I was not sure that I was the right leader any longer. While I was proud of leading our growth, I wasn't sure I was the right person to build and manage a complex, modern-scaled organisation of the kind SNHU was continually growing into. They had hired me when we were a \$US70 million operation, and at the time were a \$US500 million operation with a path to \$US1 billion! I didn't know what was needed from a president and CEO of an organisation of this size, and wasn't sure I had what it would take. So, I asked the board for six months to explore if, firstly, I could better understand what was required of me as a leader, secondly, assess if I could provide those skills (and would want to) and, finally, to give them space to determine if they still wanted me in the role. In those subsequent months I spoke with CEOs in various industries, found coaches and mentors, read a lot, and eventually shared with the Board what I had learned. I also asked for a chance to reinvent my leadership for the next chapter of the SNHU story.

The years between 2015 and 2020 saw steady and substantial growth. We modernised the organisation by investing millions of dollars in our technology; developed talent; rotated new Board members with experience in scaled, technology-based organisations; worked on our diversity (the research is clear that more diverse organisations are stronger organisations); and took such good care of our people that we remain the only university to be named to the 'Best colleges to work for list' (ModernThink, 2022) every single year since that list started 17 years ago. It is important to add that this work never stops. We still work to meet technology challenges, seek out the best talent, work to improve our processes, and stay true to our values.

The test of how far we had come came in the first year of the Covid-19 pandemic in 2020. As the world went online, we suddenly saw 45,000 new students enrol and had to hire 1,600 new full-time staff to support that growth. We switched overnight to being fully remote. Unlike the rocket ride of 2012 to 2015, the systems held: strained, for sure, *but they held*. We knew we had a scaled, resilient organisation with the systems, people, technology, and culture in place to manage an unprecedented situation for which we, like most others, had no playbook. Since then, we have continued to grow (albeit back at normal rates), and while many institutions are struggling with declining enrolment, at the time of writing this we just set a term start record with 25,000 new learners. We now exceed 250,000 learners in total, with a budget of \$US1.4 billion, and over \$US1 billion in cash and reserves.

The lessons learned

I'm sometimes asked, 'What is the secret to SNHU's growth and transformation?' The question implies one secret or a single magic key to scaling, but our success included many critical components. In my view they were:

Talent

Getting the right people at the right time in the right roles was critical. As a leader, my job was to constantly assess and make changes when necessary. Sometimes doing this was very hard, and it reached even to me with a periodic hard look in the mirror. It was such a moment in 2023 that led to my decision to step down, recognizing that SNHU needed fresh eyes and someone who was ready to lead across its next phase of growth and evolution.

Culture and mission

These are linked in my mind because they are intertwined. Our students have *always* been poorly served by traditional higher education, and we never wavered from our single-minded focus on their success, their Job-To-Be-Done. The JTBD gave us focus. We never chased rankings, never constructed status buildings on campus, never invested in research, and never pursued some perceived 'better' student type. Instead, we built our culture around relationships, care, and prioritising student needs. SNHU does not offer a culture in which an employee caring primarily about the status of their university would feel at home. But if you they students and changing lives, we are a paradise! I can say this because of our abnormally low staff turnover rates.

Processes, systems, and technology

Early on, addressing the three related areas of processes, systems, and technology created a foundation for growth. Later, technology allowed us to improve the student experience,

become more efficient, and use data in new and powerful ways. As mentioned earlier this work never ends, and our work across these three areas remains a key differentiator between us and most of our traditional non-profit competitors. Simply, we out execute most of the competition on most fronts on most days.

Along our journey we began to realise the economies of scale that start to accrue with size. Our cost of acquiring a student is lower than the industry average because of the scale of our marketing effort. Our purchasing power is greater, because of the size of our purchases. Word-of-mouth and brand-building are supercharged when 45,000 students graduate per year, because these graduates tell their families and co-workers about their positive experience at SNHU (94% of our graduates say they would choose us again). With scale, and the reach that comes with it, we are able to extend our mission. We now have the world's most ambitious effort to bring full degree programmes to refugee learners in Africa and the Middle East, and work with 20 community partners around the US to serve deeply underserved communities. We are also branching out globally, focusing on Latin America, India, and Southeast Asia. Scale allows us to touch and transform more lives.

Perhaps the most important point, and my final one, is that we never once set out to scale. *Our goal was always to do better work for more students.* We eventually adopted the vision statement 'to transform lives at scale', but that mostly happened after we achieved scale. Scale itself was never an aspiration as we grew early on. In other words, we became a scaled university only because we stayed focused on our mission and student success. Scale was the result, not the driver. Early in my career I thought mission statements mattered little, dismissing them as a mishmash of various stakeholder interests and too watered down to mean anything. But mission matters a lot, and so does the language we use.

Our people will often ask, 'Do we live our mission?' I still believe there is no single answer to the question of how to scale, but I do know that all begins with mission and why we exist.

Copilot summary

This chapter narrates the transformation of Southern New Hampshire University (SNHU) from a small residential institution with 2,800 students in 2003 to a mega-university with over 250,000 students by 2024. Under the leadership of Paul LeBlanc, SNHU expanded its online programmes, focusing on nontraditional learners and implementing innovative strategies such as the 'Four Cs' (Completion time, Convenience, Cost, Credential). The university's growth was driven by a commitment to student success, strategic marketing, and continuous improvement in processes, systems, and technology.

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Author profile

Dr. Paul J. LeBlanc is the Board Chair for Matter and Space, a new AI and Education company he co-founded with noted researcher George Siemens.

Until June 2024, he served as President of Southern New Hampshire University (SNHU). He remains at SNHU as a researcher, writer, and advisor. Under the 20 years of Paul's direction, SNHU has more grown from 2800 students to over 250,000 and is the largest non-profit provider of online higher education in the US.

Paul is considered one of America's most innovative educators. In 2012, the university was #12 on *Fast Company* magazine's 'World's Fifty Most Innovative Companies' list and was the only university included. *Forbes Magazine* has listed him as one of its 15 'Classroom Revolutionaries,' and *Washington Monthly* named him one of America's ten most innovative university presidents.

In 2018, Paul won the prestigious *LAA Institute Hesburgh Award* for Leadership Excellence in Higher Education, joining some of the most respected university and college presidents in American higher education. He has also received the *Ernest L. Boyer Award* (NACU), the *Distinguished Alumnus Award* (AASCU), the *Ray Schroeder Leadership Award* (UPCEA), *The Zemsky Medal* (Penn), and the *Alumnus of the Year Award* from his alma mater, Framingham State University.

CHAPTER 3.2

Building a digital university connecting the world: the practices and strategies of the Open University of China

Wang Qiming



“...while mega-universities can achieve vast scale, their long-term success depends on maintaining the quality and relevance of their offerings and adapting to changing market and regulatory conditions... Even the largest institutions must continuously innovate and adapt to stay relevant in an ever-changing educational landscape.”

In 1996, Sir John Daniel identified 11 mega universities in his book *Mega universities and knowledge media: technology strategies for higher education* (Daniel, 1996, 2003), including the Open University of China (OUC), formerly known as the China Central Radio and TV University and referred to as the China Radio and TV University (RTVU) System in Daniel’s book. Compared to 1996, the student number of the OUC is now far larger. In the spring semester of 2024, there are 4.57 million students enrolled in the OUC’s academic programmes (The Open University of China, 2024a), making it the largest university in the world in terms of student numbers. The history, present status, achievements, challenges, and future development strategies of the OUC are not only significant for understanding the university’s own progress; they also offer valuable insights and lessons for the international academic community of open and distance education, as well as for other mega-universities around the world.

Foundational to the strategy and practices of the OUC are two key factors. First, they are grounded in a thorough study and adaptation of international trends, global best practices, and the experiences of other mega-universities. By keeping a close eye on global developments in open and distance education, the OUC ensures that its initiatives are in line with international standards and emerging opportunities. Second, the OUC’s strategies are shaped by a keen anticipation and timely response to China’s

national policies and strategies. The OUC positions its reform and development within the broader context of national goals, aligning itself with the country's educational and socio-economic priorities. This alignment has enabled the OUC to secure substantial support from national policies, ensuring that its strategic planning both follows global trends and supports national development. The remarkable achievements of the OUC over the past 46 years can be attributed to this approach, and its future growth will continue to be built on this solid foundation.

To fully understand the OUC's development and strategic vision, it is essential to consider both the international context and the national landscape that have shaped its growth. This chapter will delve deeper into these aspects, beginning with an exploration of the global trends in digital education and the development of mega-universities. We will then examine how China's national strategies, particularly in education, influence the positioning and strategies of the OUC. Finally, we will outline the practices and achievements of the OUC, as well as its strategic plan for the next three years.

International context

The international context of the OUC's practices and strategies is made up of a broad framework of global educational trends, particularly the rise of mega-universities, the ongoing digital transformation in education, and the challenges and opportunities such trends present. Together, these elements provide the backdrop for the OUC's evolution and future trajectory.

The global development of mega-universities

Mega-universities are typically 'open' in nature, in that they offer flexible admission policies and a wide range of programmes aimed at a diverse demographic, including working professionals, remote learners, and lifelong learners. They are also characterised by their ability to offer education at scale, primarily through distance learning and increasingly through digital means. The growth of mega-universities is particularly significant in the context of rising global demand for higher education, which traditional university systems have struggled to meet due to capacity, infrastructure, and financial constraints.

The most notable example of a mega-university is the Open University, United Kingdom (OUUK), which has influenced the establishment of open universities, including the OUC, in many countries. In October 1977, former British Prime Minister Edward Heath visited China and introduced the OUUK's approach of using radio and television to provide large-scale education to Chinese Vice Premier Deng Xiaoping. Deng was impressed by the open university approach and recognised the potential of using broadcast media to rapidly expand access to education. He immediately supported the idea and advanced the role of radio and television as the means to accelerate the

development of China's higher education system. In 1978, Deng approved the establishment of the China Central RTVU, which later evolved into the OUC (Editorial Committee, 1999).

The immediate and massive student enrolment of the OUC can be attributed to two main factors. First, there was China's large population and the rapidly growing demand for higher education, driven by economic development and technological advancement. Second, there was the unique structure of the OUC; it functions as an independent national open university and as an open university *system*. As a system, it comprises of the OUC headquarters, 45 provincial branches, and, as of December 2024, 2,692 learning centres. This structure enables the OUC to provide accessible education to a vast number of learners nationwide. A similar mega-university model can be seen in India with the Indira Gandhi National Open University (IGNOU), which currently enrolls over three million students.

However, mega-universities should not rely on their impressive student numbers as a permanent or unique advantage. Several factors influence whether such large student enrolments can be sustained, including the population base, the stage of higher education development in the country, and government policies (Wang & Jiang, 2021). Consider the University of Phoenix (UoP), once a leading example of a mega-university in the United States. The UoP experienced a dramatic decline in enrolment numbers over the last fifteen years, from 470,800 in 2010 to 76,000 in 2022 (Apollo Group, 2011; University of Phoenix, 2023); regulatory challenges, a declining reputation, and changes in the higher education landscape lie behind that decline. This shift is a warning that, while mega-universities can achieve vast scale, their long-term success depends on maintaining the quality and relevance of their offerings and adapting to changing market and regulatory conditions.

The development of mega-universities, exemplified by the OUC and the IGNOU, highlights the capacity of open universities to meet the growing demand for higher education in large developing countries. However, maintaining a large student base is not guaranteed. Factors such as institutional quality, government support, and adaptability to educational and technological changes are critical to sustaining growth. Even the largest institutions must continuously innovate and adapt to stay relevant in an ever-changing educational landscape.

Global trends in educational digitisation

The digital transformation of education stands as one of the 21st century's defining trends, profoundly accelerated by the global Covid-19 pandemic's push toward online and blended learning models. This shift, now sustained beyond the pandemic, continues to be driven by technological advances, particularly the convergence of ubiquitous internet access; mobile devices; cloud computing; and the disruptive potential of Generative Artificial Intelligence (GenAI).

Massive Open Online Courses (MOOCs) have emerged as an important component of the digital education revolution. Platforms including Coursera, edX, FutureLearn, and XuetangX have brought online learning to millions of students worldwide, often in partnership with prestigious universities and institutions. These platforms offer high-quality, flexible learning opportunities, often free of charge or at low cost, lowering barriers to education. MOOCs have democratised access to education, making it possible for students from diverse backgrounds and locations to take courses from top-tier institutions without ever setting foot on campus.

Alongside MOOCs, digital tools including Learning Management Systems (LMSs, also known as Virtual Learning Environments or VLEs), Virtual Reality (VR), and GenAI-driven tutoring systems have been transforming the way education is delivered. GenAI, for example, is increasingly being used to personalise learning, with smart content and GenAI tutors capable of providing customised learning paths for students based on their individual needs and progress (Bayly-Castaneda et. al., 2024; Lin et. al., 2023; Merino-Campos, 2025). This trend is particularly evident in online courses, where GenAI can track student performance and provide real-time feedback, helping to close the achievement gaps that often arise in traditional, large lecture-based classrooms.

Many universities and higher education systems around the world have already embraced blended learning, a model that combines online and face-to-face instruction. This approach has the potential to increase student engagement and improve learning outcomes by providing a mix of synchronous and asynchronous learning experiences. For example, Harvard University, MIT, and Tsinghua University have integrated online learning components into their traditional degree programs, allowing students to benefit from the flexibility of digital learning while still participating in in-person interactions (Tsinghua University, 2015).

Opportunities and challenges for open universities

Globally, distance education and online learning are transitioning from the periphery to the centre of higher education (Xiao, 2018), presenting both significant opportunities and formidable challenges for open universities worldwide. Traditional universities are fundamentally transforming the landscape of higher education through the development and implementation of Open Educational Resources (OER), MOOCs, and ever-improving use of online learning in support of their on-campus model. Teaching and learning, as well as interactions between instructors and students and among students themselves, are increasingly conducted through non-face-to-face methods. Many open universities have found that open and distance education are no longer their exclusive domain or competitive advantage. Intensified competition for student enrolment, and an increasingly challenging operational environment, have led to consecutive years of declining admissions and financial difficulties for some open universities. Adapting to the transformation of higher education and achieve sustainable development has

become a common challenge faced by open universities around the world, including the OUC (Wang, 2019).

Meanwhile, the quality assurance of online education remains a significant concern, particularly in ensuring that digital courses meet rigorous academic standards. The absence of face-to-face interaction can affect student engagement and retention, as students may struggle with feelings of isolation or lack of support. Additionally, the rapid pace of technological change requires that open universities continuously update their systems, training programmes, and pedagogical approaches to stay relevant and competitive.

The cost of infrastructure is another challenge. While digital platforms can reduce some costs associated with traditional campus-based education, open universities still face significant investments in technology, content development, and faculty training. Ensuring that these institutions remain financially sustainable while providing high-quality education will require careful planning and resource management.

As some scholars and government documents have pointed out, although mega-universities (large open universities) have developed widely across the globe, they still face significant challenges. For example, they may be perceived as being large but not necessarily strong, and sometimes they have relatively low social reputations (Ministry of Education, 2020). Despite their ability to scale education and provide accessible learning opportunities, open universities and mega-universities often struggle to achieve the same level of prestige and recognition as traditional universities. The reputation of mega-universities, especially those that rely on distance and online learning, remains an ongoing challenge, with many still perceived as second-tier options compared to the more conventional, on-campus institutions.

The issue of reputation is compounded by a broader societal tendency to prioritise the privileging (or selection) function of higher education over its other roles. In many cultures, particularly in highly competitive societies, higher education is seen primarily as a means to secure a good job and elevate one's social status, rather than as a pathway for personal development, intellectual growth, or societal contribution. The selection function, the idea that education should serve as a gatekeeper to high-status careers, often takes precedence over the function of fostering lifelong learning, equality, and broader social good.

The elitist tendencies within traditional higher education systems continue to dominate public perception. The preference among countries for prestigious universities, which are often rooted in historical legacies and academic traditions, remains strong; this reverence for elite institutions leads to a tendency to overlook the value offered by open universities. People flock to elite universities not only for the quality of education they provide but also for the social capital associated with attending such institutions. This has created a cultural bias that affects the standing of open universities, as they are often

(mistakenly) not seen as producing the same calibre of graduates as their prestigious counterparts.

So, mega-universities are often caught in a paradox: while they have expanded access to education for millions of students, they face difficulties in changing perceptions and gaining widespread societal respect. As these universities scale and serve a broader, more diverse student population, they are frequently seen as institutions that cater to ‘non-traditional’ students, working adults, those seeking part-time education, or people who cannot afford the traditional university route. Unfortunately, these categories are sometimes unfairly associated with a lack of academic rigour or prestige.

The educational mainstream continues to embrace an elitist and exclusionary view of higher education, making it difficult for open universities to fully realise their potential as agents of change and accessibility. The social bias against non-traditional education models has impeded the broader acceptance of open- and mega-universities as legitimate and high-status institutions of higher learning. This bias towards elitism not only undermines the value of open universities but also limits the broader societal benefits they could offer. Even the OUC, which has long received government support, educates tens of millions of students, and makes unique and significant contributions to the massification of higher education in China, faces such challenges.

To address these challenges, open and mega-universities must continue to innovate and demonstrate that quality education and societal impact are not limited to the traditional university model. Strengthening academic rigour, enhancing global reputation, and emphasising the value of inclusivity and lifelong learning can help mega-universities gain the recognition they deserve and play a more prominent role in the global educational landscape. The OUC’s ability to adapt to these international trends and challenges has been key to its success as a mega-university. This adaptability, combined with a clear alignment to national strategies and policies, has played a significant role in the OUC’s development over the past 46 years and will continue to be crucial in its future growth.

China’s national strategy and policy

China’s national policies and strategic plans have played a central role in shaping the development of the OUC. The establishment and development of the OUC is integral to China’s broader vision for education reform, social development, and technological transformation. The policies guiding its growth reflect the country’s priorities in expanding access to higher education, promoting lifelong learning, and addressing demographic challenges such as population ageing. This section will explore the key policies and strategic frameworks that have influenced the development of the OUC.

The Comprehensive Reform Plan for the OUC

In August 2020, the Chinese Ministry of Education released the *Comprehensive Reform Plan for the Open University of China*, a key document guiding the development of the OUC and its future trajectory. This document emphasises the importance of expanding and enhancing the OUC system. Explicit directives were made to build the OUC into a world-class open university with Chinese characteristics (Ministry of Education, 2020, Article 4, paragraphs 18 - 20). These statements make it clear that the transformation and upgrade of the RTVUs, and the ongoing development of high-quality in open universities, had entered a new stage (The Open University of China, 2024b). By 2022, all the provincial RTVUs had been renamed as open universities, serving as provincial branches of the OUC. These universities include Henan Open University,³⁹ Shandong Open University,⁴⁰ Fujian Open University,⁴¹ and many others.

Policies for the Senior University of China (SUC)

China's aging population presents a significant 21st century demographic challenge. From 2019 to 2021, the Chinese government issued three important documents to address population aging, including the:

- *National Long- and Medium-Term Plan for Actively Addressing Population Aging*, which outlined key strategies to address the needs of the elderly, emphasising lifelong learning and social participation for older adults (Xinhua, 2019).
- *Opinions of the Central Committee of the Communist Party of China and the State Council on Strengthening Work Related to Aging in the New Era*, which explicitly stated the need to 'rely on the Open University of China to establish the Senior University of China and build a national platform for shared elderly education resources and public services' (Xinhua, 2021a, point 10).
- *Plan for the Development of the Country's Elderly Care Services System During the 14th Five-Year Plan Period*, which again called to 'rely on the Open University of China to establish the Senior University of China and build a national platform for shared elderly education resources and public services' (Xinhua, 2021b, point 20).

In October 2022, President of China Xi Jinping, in his report at the 20th National Congress of the Communist Party of China, stated 'We will pursue a proactive national strategy in response to population ageing' (Xi, 2022). In November 2022, the Ministry of Education issued a notice on the OUC adding the 'Senior University of China' to its name. On March 3, 2023, the Senior University of China was officially established at the headquarters of the OUC.⁴²

³⁹ <https://www.haou.edu.cn/> (accessed 4 August 2025).

⁴⁰ <https://www.sdou.edu.cn/> (accessed 4 August 2025).

⁴¹ <https://www.fjrtvu.edu.cn/> (accessed 4 August 2025).

⁴² Note that 'one team, two names' is a common model in China's institutional setup and management. The term typically refers to a single team or organisation simultaneously

Policies related to digital university

In February 2023, the Chinese government issued the *Digital China Construction Overall Layout Plan*, a crucial component of China's overall national strategy, focusing on accelerating the digital transformation of various sectors, including education. This plan emphasises the importance of digital infrastructure, digital skills development, and the integration of emerging technologies in education (Xinhua, 2023). The OUC's focus on digital education aligns directly with the goals outlined in this plan, positioning the University as a key player in China's digital transformation.

In January 2024, the Chinese government released the *2024-2035 Master Plan on Building China into a Leading Country in Education*, which outlined China's long-term educational goals, emphasising the need for strengthening the educational system in line with the nation's evolving economic, social, and technological changes. Article 24 of the *Plan* focuses on 'Enhancing public services for lifelong learning,' and includes the following areas of focus:

Improve the level of public services for lifelong learning. Establish a lifelong learning system based on the qualifications framework, with credit banks as a platform,⁴³ and with a focus on the certification of learning outcomes. Strengthen the sharing of educational resources and the construction of public service platforms, build learning cities and learning communities, enhance the Open University of China System, and further develop the Senior University of China to higher standards. Strengthen the construction of digital infrastructure for a learning society and build a national digital university to high standards. Improve and strengthen institutional support for continuing education, self-taught examinations, and non-academic education, and build a learning society in which everyone can learn, can learn anywhere, and can learn at any time. (Xinhua, 2025, Article 24).

The *Plan* provides new momentum and opportunities for the development of the OUC. Through its transformation into a globally connected digital university, the OUC will contribute significantly to the nation's efforts in building a robust digital economy and society, strengthening China's global position in the digital education landscape, and supporting the country's ambitions to lead in digital innovation and education.

undertaking two functions or identities, with the same group of personnel responsible for its actual operations. This model is frequently seen in government agencies, public institutions, state-owned enterprises, and social organisations. Under this logic, it is also possible to see 'one team, three names' (or even more 'names') in practice. The Chinese model of 'one team, two names' has been crucial for the OUC operating across multiple educational domains, including as a university for open and distance learning and a university for the elderly people's lifelong learning, while also being a university for digital education and higher education innovation.

⁴³ Editor's note: a 'credit bank' indicates a mechanism by which learning credits earned by students can be stored and shared so that they can be recognised by other institutions.

The practices and strategies of the OUC

Over the past 46 years, the OUC has achieved remarkable success. It has made a significant impact on China's educational development and social progress. From 2025 to 2027, the OUC will align with the overarching goal set by the *2024-2035 Master Plan on Building China into a Leading Country in Education*, focusing on enhancing public services for lifelong learning. The OUC's strategic direction will centre on leveraging digital technologies to empower lifelong education and contribute to the development of a learning society and a learning-oriented nation. With the goal of building a ubiquitous and accessible lifelong education system, the OUC will pursue an integrated and coordinated approach to advancing high-quality development. Accordingly, it will formulate and implement a *Three-year Action Plan* to support the execution of the *National Plan*. The following sections provide an overview of this plan from four key perspectives.

1. *Serving the national strategy for building a learning society, enhancing the quality of the OUC's academic performance*

The OUC has built the world's largest open and distance education system, making significant contributions to China's economic and social development while popularising higher education (Wang, 2023). It has pioneered a mega-university model that is deeply rooted in China's context, tailored to national conditions, and uniquely characteristic of the country. As of December 2024, the OUC System consists of one national open university (the OUC as the headquarters of the system), 44 provincial open universities, and 2,692 county-level learning centres. The university offers 190 undergraduate and associate degree programs. In the spring semester of 2024, the university had 4.57 million enrolled students. This represents nearly one-tenth of the total student population in China's higher education system; the OUC has cumulatively enrolled some 25.72 million students in higher education programmes, accounting for 10.3% of China's total higher education graduates (The Open University of China, 2024a).

Over the next three years, the OUC will implement a strategic plan for its academic degree programmes in line with the *Implementation Opinions on Promoting the Comprehensive Reform of Education and Teaching in Open Universities through Integrated and Collaborative Advancement with Digital Intelligence Empowerment*.⁴⁴ The plan focuses on addressing key challenges in the OUC's academic practice by pursuing a '101 Initiative,' which will drive comprehensive reforms across all elements of teaching and learning, and ensure meaningful progress in educational transformation (Wang, 2024). The OUC will develop a series of top-tier programs characterised by competency-based training; high-quality courses tailored to societal and industry needs; and knowledge, skills, and

⁴⁴ Note, this is an internal document to OUC not for public release.

competency maps to facilitate digital intelligence-driven education. Additionally, the OUC will pilot a reform initiative integrating academic degrees and vocational skills, optimise the overall structure and quality of learning resources, and establish a resource matrix that includes new-format textbooks, online courses, practical training platforms, and digital repositories. These efforts aim to build a more comprehensive quality assurance system for the OUC.

2. *Serving the national strategy to proactively address population aging, strengthening and expanding the SUC*

Since its establishment two years ago, the SUC has made significant progress in building a nationwide education system for the elderly. With the support of various stakeholders, the SUC has achieved full coverage in its institutional framework, setting up more than 68,000 learning centres across China and registering 43.04 million learners. Through continuous optimisation and iterative upgrades of its public service platform for elderly education, the SUC has amassed a repository of 490,000 educational resource items and registered 11.97 million users. Additionally, the SUC has launched the Academy for Active Health, offering six premium traditional Chinese medicine courses taught by renowned masters, with online course materials that have received 26.077 million views.

Over the next three years, the SUC aims to become the primary channel for elderly education in China, a strong advocate for active health, and a catalyst for the silver economy (Wang, 2024). It will further promote the establishment of a multi-agency coordination mechanism, set up an SUC Governing Council, and refine a diversified funding and cost-sharing system. The SUC will implement ten key initiatives, including: institutional and policy development; system-wide network expansion; enhancement of curriculum resources; platform development and promotion; faculty capacity building; credit bank integration; research and academic advancement; international collaboration; model learning centre establishment; and branding and community engagement initiatives. These efforts will foster a new era for the SUC, characterised by effective top-level design; standardised institutional frameworks; extensive educational coverage; abundant and accessible learning resources; an expanded and upgraded faculty system; intelligent and interconnected digital platforms; flexible and innovative teaching models; and widespread, inclusive access to elderly education.

3. *Serving the national digital education strategy, building a digital university connecting with the world*

As China accelerates its national strategy for education digitisation, the OUC is exploring institutional innovations through a world-oriented digital university initiative. This effort responds to growing demands for high-quality, technology-enhanced lifelong learning, aiming to create an experimental hub for integrated, intelligent, and internationalised education, complementing the roles of the OUC and the SUC to form a seamless and inclusive lifelong learning ecosystem (Wang, 2025). This initiative will

primarily address the lifelong learning needs of high-level professionals, offering large-scale, personalised, and technology-driven non-degree education while also providing select, high-quality degree programmes in emerging interdisciplinary fields. This model distinguishes itself from the OUC's undergraduate programmes, which focus on open-access degree education for a broad learner base, and the SUC's non-degree programmes, which cater specifically to senior learners.

The non-degree education programmes under this framework emphasise digital and intelligent empowerment, allowing learners to customise their learning pace. Through a 'piecemeal accumulation' approach, participants can obtain certificates for micro-courses and micro-programmes, with learning outcomes recognised and stored in a national credit bank for conversion into course credits within degree programmes. For degree education, a collaborative 'VISA-style' sharing mechanism will be adopted, leveraging partnerships with leading universities worldwide to offer emerging interdisciplinary programmes. This digital intelligence-driven model combines renowned faculty, top-tier institutional collaborations, and industry support to create a transformative educational experience (Wang, 2025).

4. *Serving China's international education strategy, building a new 'Digital-Study-in-China' brand*

As of June 2025, the OUC has established 35 open learning centres in 29 countries worldwide. Of these, 23 centres are in Africa, nine in Asia, two in Oceania and one in South America. The OUC has also launched two China-Africa Regional Cooperation Centres for Digital Education in Kenya and Benin. To further implement the vision outlined by President Xi Jinping during the 16th BRICS Summit in October 2024, the OUC plans to establish at least eight more open learning centres in BRICS countries over the next five years.

To better serve the national strategy for opening up education and build a globally influential education hub, the OUC will continue further enhance its international online teaching platform 'OUC Global' for overseas learners, as well as a series of international courses such as *Future Chinese* and *Chinese for Industries*. Building upon its international teaching platform and overseas open learning centres (the China-Africa regional cooperation centres for digital education, and the ASEAN-China Digital Education Alliance), the OUC will pilot credit-based master's programmes, combining online and offline learning, to enrol and educate international students. These initiatives will create new opportunities for overseas learners to pursue their studies in China through digital platforms and establish a globally recognized 'Digital-Study-in-China' brand for the OUC's international education programmes. (Wang, 2024).

Conclusion

The development of the OUC is closely tied to China's social and educational policies. Together, these policies play a crucial role in addressing the needs of diverse learner populations, from lifelong learners to senior citizens, while contributing to the nation's broader objectives in education, demographic management, and digital transformation. By aligning its strategies with national policies, the unique 'one team, two names' model of the OUC provides the flexibility and efficiency needed to respond to China's dynamic educational landscape, ensuring that it remains a key player in the country's journey to build a more inclusive and digitally advanced society.

As one of the world's largest mega-universities, the OUC shares common challenges and opportunities with other global open universities in leveraging digital transformation to enhance education quality, accessibility, and impact. The strategic initiatives outlined for the next three years will position the OUC as a key driver of educational innovation, not only in China but also in the global learning ecosystem. By deepening its role in international education cooperation, expanding its digital learning networks, and pioneering new models of lifelong education, the OUC is set to contribute significantly to the future of open and digital higher education worldwide (Wang, 2025).

Copilot summary

This chapter discusses the development and strategies of the Open University of China (OUC), highlighting its role as the world's largest university with 4.57 million students. It emphasises the OUC's alignment with international trends and China's national policies, focusing on digital education, lifelong learning, and addressing population ageing. The OUC's achievements, challenges, and future plans are explored, including its efforts to enhance educational quality, expand elderly education, and build a globally connected digital university. The chapter underscores the importance of innovation and adaptability in maintaining the OUC's success and relevance.

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Author profile

Dr. Wang Qiming serves as the President of the Open University of China (OUC). With over 30 years of experience in higher education reform and management, he held the position of Deputy

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CONCLUSION

CONCLUSION

Mega plus: available, inclusive, scalable, sustainable education systems

Mark Nichols



“In some ways, mega-universities represent the winning combination across macro-, meso-, and micro-education contexts, particularly as they evidence their national benefits through quality outcomes. At the same time, mega-universities provide significant resilience of provision.”

So, how best to summarise a collection of wisdom from across the mega-university spectrum? What advice can we finally offer to decision-makers seeking to make higher education better reflect the four factors of being more available, inclusive, scalable, and sustainable, drawing on the strategies, operational systems, and technologies available to us? How can we better design education systems, at the macro- (system-wide), meso- (university), and micro- (teaching and learning) levels (Zawacki-Richter & Jung, 2023)?

By now, it should be clear that the terms ‘open,’ ‘distance,’ and ‘mega’ do not fit exclusively together as they once did (see also Olcott, Jr., chapter 2.2). Not all ‘open’ universities are ‘mega’ ones, and neither are all mega-universities built on classic open university foundations. And, while the term ‘distance’ no doubt has a special place in the heart and practice of many readers, it is no longer a distinguishing feature of educational practice; technology now makes it possible for distance to be traversed by almost every university. One’s status as an ‘open’ university, founded on distance education principles and theories, provides no monopoly for reaching traditional distance students or the potential for mega-university status.

It should also be clear that the advantages open and mega-universities once had 30 years ago are rapidly diminishing. Distance education models are no longer restricted to asynchronous print via post, and teaching via radio and television has not progressed into the early 21st century. Each of these is now transcended by online technologies, leveraged by all universities. Technology has long extended the reach of all universities,

via the Learning Management System (LMS, or Virtual Learning Environment, VLE) and, more recently, streamed classes. The near-ubiquity of synchronous streaming via Teams and Zoom, hastened by Covid-19, and the incredible potential of Generative Artificial Intelligence (GenAI), with ChatGPT the fastest adopted innovation in history (Bond, 2025), provides a level platform of possibility for all concerned with higher education. Applying technology to available, inclusive, scalable, and sustainable education is an option readily available to *all* universities.

The chapters of this book provide a landmark view of mega-universities as of 2025: their role and nature, their strategic options, and two in-depth views of mega-universities that reveal the capability and competitiveness across distinctive, even contrasting, domestic contexts. Our objective, as Bozkurt puts so well on p. 34, is to create ‘institutions that are not only technologically adept, but also pedagogically compassionate, socially inclusive, and structurally resilient.’ Put differently, our pursuit is for education that is available, inclusive, scalable, and sustainable at mega scale.

To close, I offer five strategic considerations for mega-universities and those seeking mega-university status: advocacy, differentiation, adaptability, alignment, and courage. These may seem conceptual at first glance, so I will endeavour to be as concrete as possible. As an initial summary point for this book, I suggest advocacy as our most important activity.

***Advocate* for available, inclusive, scalable, and sustainable higher education**

I have been gifted two *pounamu* (greenstone) necklaces in my life; these have cultural significance in *Aotearoa* New Zealand. Both were from the previous Chief Executive of Open Polytechnic, Dr Caroline Seelig, and both are very precious to me. Together, they are a reminder to me of two central truths of designing available, inclusive, scalable, and sustainable education. One: it takes courage (I’ll return to this later). Two: others can easily misunderstand their significance.

My very first *pounamu* coincided with my very first managerial role, which was a big one: Executive Director of Faculty, at the Open Polytechnic of New Zealand. I had responsibility for the entire academic team and associated services. My first managerial task was also a big one: a restructure of faculty, the first stage toward moving toward a much more available, inclusive, scalable, and sustainable operating model for the Open Polytechnic. In recognition of this challenge, presented on my first day was a *pounamu Mako* (shark) tooth. This *pounamu* represents courage, strength, and, perhaps ambitiously, the dull-eyed ferocity I still seem to lack.

My second *pounamu* was received some 12 years later, as Open Polytechnic was facing an uncertain future. It is a *Roimata* design (resembling a teardrop), representing grief, healing, and hope. All Open Polytechnic staff received this gift because the institution’s

operating model and process architecture were at risk of being lost. The entire polytechnic sector was being reshaped by government policy, which involved bringing together industry training bodies, regional polytechnics, and the Open Polytechnic into a single institution. The dominant school of thought by those bringing all institutions together seemed to be that, in a technological age, distance learning could be better positioned in regional polytechnics through online means. There would likely no longer be a role for a distinctive institution with a national focus, because regionally based polytechnics could achieve national reach.⁴⁵ Technology coupled with blended learning models, in the minds of many, circumvents the need for a single, dedicated distance provider.

Together, my *pounamu* signal something important to my ongoing advocacy of open education and, at the larger scale, mega-universities: the *Mako* tooth reminds me of the incredible courage it takes for institutional leaders to ensure their institutions design primarily for available, inclusive, scalable, and sustainable education even if it means a departure from how others (especially the majority) operate, and to be ever challenging themselves to be ever open-ing in their practice. And, as the *Roimata* testifies, those with a history of traditional open and distance education are never far from the grief of being woefully misunderstood in their uniqueness of perspective and practice, particularly when that uniqueness is being eroded. It's also important to remember that, while the past exemplifies open institutions as the best examples of available, inclusive, scalable, and sustainable practice and the potential of mega-university size, the future may not.

Open Polytechnic is not a mega-university however its operating model resembles those of the Open University, United Kingdom (OUUK) and its aspirations align with the student-centrality of Southern New Hampshire University (SNHU). Open Polytechnic is concerned with vocational education, serving around 40,000 students across a small national population of just over five million. From recent experience, despite an open and distance learning operating model, the distance provision of Open Polytechnic is no longer considered unique or out of reach for other regional polytechnics. The open universities of the world face a similar misunderstanding. Increasingly, they are not the sole national candidates for mega-university status or the only alternative to traditional in-person, on-campus education in their countries.

So, we must advocate. Not necessarily for open and distance education, but instead for an education system that better promotes the agendas of students (available, inclusive) and universities (scalable, sustainable), noting that all of these four terms *together* are also highly relevant to those who seek to promote and fund higher education and who

⁴⁵ At the time of writing the one institution bringing all polytechnics and industry training bodies together, called 'Te Pūkenga,' is in active process of being disestablished. A new, federated model will soon be in place, with Open Polytechnic identified as the 'anchor' institution. Open Polytechnic becomes a legal entity again in early 2026.

develop higher education policy.⁴⁶ In some ways, mega-universities represent the winning combination across macro-, meso-, and micro-education contexts, particularly as they evidence their national benefits through quality outcomes. At the same time, mega-universities provide significant resilience to an education system.

Advocacy is an activity best done by mega-universities themselves, aligned with those various professional bodies dotted around the globe who bring like-minded institutions together. Belawati in this book relates how Universitas Terbuka advocated for its model to the extent that ‘most laws and regulations are now compatible with UT’s system’ (p. 64). Increasingly, mega-universities will find themselves alongside others whose practice resembles their own, so it is likely such advocacy will find broader support; further, the combined message of available, inclusive, scalable, and sustainable education aligns wonderfully with national agendas and Sustainable Development Goal Four.⁴⁷ The International Council for Open and Distance Education (ICDE) has a Global Advocacy Campaign (GAC) which all member universities are invited to participate in.⁴⁸

This leads me to my second strategic consideration: differentiation.

Differentiate within the national landscape

Thinking back to the classic dichotomy of open (distance) and on-campus (in-person) universities,⁴⁹ an argument can be made that open universities have a distinctive advantage in operating model. Open universities are by nature designed to offer available, inclusive, scalable, and sustainable education, and as attested to by LeBlanc in the SNHU case study in this volume, on-campus universities seeking to realise these four-factor advantages, even with the latest technologies and in seeking primarily to better serve students, face tremendous challenges. The Open, Flexible, and Distance Learning (OFDL) model central to open universities is the perfect platform for further extending the four factors with less friction than other universities. LeBlanc did not make the transformation of SNHU sound easy, bringing to mind the statement by Ross Paul in this volume, who writes: ‘While there is much to learn from the success of open and mega-universities, it is much more difficult to achieve radical change within an existing institution’ (p. 127).

Critically, leveraging technology is not a strategy; *differentiation* is. Differentiation is a strategic decision whereby a university is able to offer advantages to its students (and

⁴⁶ Note that their actual *policies* may not reflect these priorities, hence the need for advocacy.

⁴⁷ <https://sdgs.un.org/goals/goal4> (accessed 4 August 2025).

⁴⁸ <https://icde.org/global-advocacy-campaign/> (accessed 4 August 2025).

⁴⁹ Traditionally, ‘dual-mode’ institutions have sought to combine both. Not all are able to capture the operational benefits of open universities in the true sense of industrialisation described by Otto Peters (2007).

potential students) that others find difficult to copy. In my own chapter (2.5) you can see a series of practical ideas for further open-ing higher education, many of which point toward specific options for differentiation. A strategy of differentiation is one that seeks to establish a competitive advantage (Day & Reibstein, 1996; Rumelt, 2011). So, with reference to my earlier chapter, universities seeking mega-university status might seek to exploit the incumbent advantage they have to further emphasise, in market terms,⁵⁰ the interests of customers, competitors, and stakeholders. In so doing, they will naturally appeal to the four factors as a means of differentiation. Sadly, perhaps, LeBlanc's goal "*to do better work for more students*" (p. 176) remains a potential and potent point of differentiation for universities.

What is your university's strategy? Is it ambitious and forward-focused, seeking further open-ing, or is it filled with predictable platitudes? What two to three items fit in your Strategic Reset Framework (Olcott, Jr. in this book)? Murgatroyd challenges us to go beyond predictable plans and respond to mega-trends; all universities will be responding to the trends and scenarios Murgatroyd provides, but few will be doing so in ways that differentiate. Differentiation is most likely in those universities that take Murgatroyd's four specific developments: reimagining the university as an agile, flexible, and responsive organisation; courageous, future-focused leadership; a re-examination of purpose; and improving outcomes and impacts. Strategy also involves positioning relative to government policy. As both Paul (chapter 2.3) and Murgatroyd (chapter 2.4) remind us, this is as true for democratic nations as it is for the Open University of China (OUC), where Wang notes that 'The development of the OUC is closely tied to China's social and educational policies' (p. 190).

Differentiation is no stranger to open universities, at least at their time of conception. Paul notes on pp. 121-122, with reference to the Open University, United Kingdom (OUUK) that:

The initial success of the open universities was due to their differentiation; these were institutions designed to cater to unmet needs in innovative ways that stood out from the competition. Because they were so different, especially those with open admissions policies, there was considerable scepticism about their quality. But this was quickly overcome by the success of so many early OUUK graduates, notably schoolteachers seeking to enhance their credentials.

So, the quality of open and mega-universities can be demonstrated (see also Belwati in chapter 1.4). However, tacking the latest technology on to an existing teaching and learning model may not be enough for future differentiation, even for existing mega-universities; I have written elsewhere (Nichols, 2024) that 'doing distance' or 'going

⁵⁰ I make no apology for adopting market terminology in a sector that in most countries is rigorously regulated for the purposes of academic quality. See Nichols (2020, pp. 18-21) for an extended rationale for the identity of universities and the valid need for a market orientation.

online’ are common to most universities. Concretely, the options in Tables 2.5.1 and 2.5.2 on pp. 155 and 156 are worth revisiting as the basis for a strategic workshop.

Be *adaptable* through purposeful design and shaping context

Every organism adapts or else, eventually, perishes. The incredible technological shifts over the last decades, with the recent and unprecedented disruption of GenAI in progress, is one key part of a university’s context that requires universities to continue adaptation and accelerate their pace of adaptation. As Murgatroyd puts it on p. 143:

One problem leaders face is caused by settling for incremental improvement, that is, change through slight but continuous adjustment. This inevitably creates a growing gap between what a university might become, and what it is. The pace of change simply does not keep up with possibility or respond quickly enough for the dynamic context universities are in.

One of the core ideas of this book is that education systems *are designed*. On the one hand, this means that universities must take care to make certain strategic choices in pursuit of serving more students. However, mega-universities are also able to *shape their context* as we see in the chapter by Makoe & Mphahlele. The University of South Africa (UNISA), in a context with poor technological infrastructure, leveraged its size and innovation to provide opportunities for online education. Rather than settling for technology as a barrier, UNISA built its own bridge through zero-rated data packages for educational platform access and local study centres; note, too, their empowerment for those students not confident in English, the normal language of instruction. The scale of mega-universities makes them ideal conduits for innovation related to furthering education’s reach. UNISA was able to gain subsidies for its students to access the internet, improving opportunities for greater participation and, in turn, enabling much greater use of technology across its teaching and learning.

We see the principle of design reflected in Bozkurt’s chapter (1.2), where we encountered resilience with empathy during the time of the Covid-19 pandemic. Bozkurt writes that ‘resilience begins with intentional design, not reactive improvisation’ (p. 33), adding that:

The ability of mega- and giga-universities to accommodate millions of learners simultaneously is rooted in scalable infrastructure and sustainable operational models. These institutions proved that scalability is not merely about numbers; it is also about maintaining quality, equity, and learner support at scale. Sustainability, in this sense, includes financial, pedagogical, and social dimensions.

LeBlanc reinforces this emphasis on design, noting on p. 176 that:

Our goal was always to do better work for more students. We eventually adopted the vision statement ‘to transform lives at scale’, but that mostly happened after we achieved

scale. Scale itself was never an aspiration as we grew early on. In other words, we became a scaled university only because we stayed focused on our mission and student success. Scale was the result, not the driver.

Earlier in LeBlanc's chapter (3.1) the Four C's of *Completion time, Convenience, Cost, and Credential* are mentioned as the priorities for adult students seeking the opportunities university education might provide them with. These Four C's constitute design principles that can lead to mega-university scale. Adapting for the needs of the student, while not compromising quality, will provide an ongoing programme of design for any university seeking to become a mega-one (or, as in the case of SNHU, mega-status might just be the natural outcome of this student focus).

As a way of determining how to become adaptable, university leaders are best to ask: What are those priorities for students we aspire to cater for? How can we bring the benefits of higher education to as many as possible, while maintaining our educational standards? Again, with reference to Makoe & Mphahlele, the answers to these questions might also mean a proactive reach to better the students' own ability to engage.

Align the macro-, meso-, and micro-levels

Returning to this chapter's opening comments related to macro- (system-wide), meso- (university), and micro- (teaching and learning) levels of consideration, we must consider their alignment. Earlier, under the heading '*Advocate for available, inclusive, scalable, and sustainable higher education*,' I suggested the four factors as being worthy of advocacy at the macro-level of national policy. Here, I reinforce that these same four factors can be used as the basis for meso- (university) design (scalable, sustainable) and micro- (teaching and learning) design (available, inclusive).

At the meso-level, more scalable and sustainable education leaves conventional universities at a disadvantage. Rigid administrative functions, timetable- and campus-driven models of teaching and learning, and encrusted years of business-as-usual practice that are increasingly at odds with the pedagogical advantages evident across mega-universities. However, open universities can also struggle with internal operating assumptions that hinder growth. Micro-level change can likewise be awkward for open universities used to particular pedagogical patterns. In my 2020 book *Transforming universities with digital distance education* I argued that universities ought to design themselves (meso-level) and their teaching systems (micro-level) around 11 key principles in order to align themselves with macro-level factors:

- **Consistent:**⁵¹ based on a common core, and customisable to requirement and opportunity.
- **Data-analytics-driven:** objectively and continuously improved by data.
- **Digitally agile:** driven by the user experience, and extensible.
- **Evidence-based:** reflecting proven practice, with feedback loops.
- **Expert-taught:** combining the work of specialists as a complementary team.
- **Flexible:** open and responsive, available to all.
- **Learning-activity-oriented:** pedagogically sound, with education at the centre.
- **Part-automated:** AI-assisted.
- **Relational:** tutor-supported and peer-assisted.
- **Success-driven:** outcome-oriented, in the sense of student achievement.
- **Systematic:** deliberately accessible, scalable and personalised (pp. 48-49).

It is with some self-congratulations that I included ‘AI-assisted’ in this list from five years ago!

Aligning meso- and micro-levels cannot be simply left to innovation. In conventional universities, innovative teaching practices in the forms of various blended models are frequently in play only because of dedicated academics, who find themselves wrestling against university systems; seldom are these sustainable in the long-term. Teaching innovation typically leads to ad hoc irritation for administrators, rather than long-term change. Alignment across meso- and micro-levels requires design thinking.

The challenge for university leadership is to understand and influence the macro-level (the chapters in Section Two of this book, Mega-university strategy, provide critical insight); design university systems strategically for the meso-level; and implement learning-centred teaching and learning models at the micro-level, all in pursuit of making education more available, inclusive, scalable, and sustainable. The 11 principles listed above provide a helpful framing.

Likewise, Daniel (1996), in the book referred to so frequently among previous chapters and which provides the launch-point for this work, suggested a sevenfold framework for implementing a university-wide technology strategy that still resonates. Referencing the then OUUK’s initiative, the framework focussed on key processes:

1. *Course planning process.* Updating course materials so that they reflected new technology.
2. *Course design-presentation process.* The careful planning of learning materials design, in teams.

⁵¹ This in the sense of a consistent teaching and learning model, not one that varies widely from programme to programme.

3. *Staff development.* Ensuring technology (and, IU would add, new approaches) are well understood.
4. *Resource planning.* Ensuring administrative systems and ‘working methods’ (1996, p. 158) are appropriately remodelled, in cross-unit planning.
5. *Technical infrastructure.* The challenge here are to ensure economies of scale, innovation, and a consistent student experience are all optimised. Cyber-security is now an added concern.
6. *Quality assurance.* This beyond technological infrastructure; Belawati, in chapter 1.4 of this book, argues that quality is a critical concern across all activities within open and mega-universities.
7. *External environment.* Daniel talks here of linking with wider national and international infrastructure, through partnership, rather than seeking to develop everything itself.

Aligning macro-, meso-, and micro- concerns involves a political, economic, social, and technological lens (macro-); a university policy, planning, processes, and structure lens (meso-); and a pedagogical, learning-centred, student-serving, and quality-outcomes lens (micro-) toward available, inclusive, scalable, and sustainable education.

Naturally, leading universities through this alignment takes considerable courage.

Change takes *courage*

To draw again from Naidu’s words on p. 20 in chapter 1.1 (also cited in that chapter’s opening quotation):

...conventional campus-based educational institutions are based on the one same old template... Most are... trying to implant openness and flexibility on top of a centuries-old campus-based paradigm that is resistant to change, and too hard to amend without fundamental reform.

Leading a conventional university through the transformation required to become a mega-university takes considerable courage. We have seen how, through a combination of vision and courage, LeBlanc helped SNHU achieve the ‘fundamental reform’ Naidu advocates.

For some universities, the main call for courage will be to make its education more available and inclusive. Improvements to availability will likely challenge those well-worn tracks that lead to a predictable annual calendar. Those to inclusiveness will force the change that Belawati mentions on p. 59: a change from ‘emphasising exit standards over entry requirements.’ Shifts toward more scalability and sustainability might likewise be confronting for university staff and stakeholders. Scalability implies growth for growth’s sake; we are best to take LeBlanc’s position, that growth is simply the natural outcome of doing better work for students. Talk of sustainability is often treated with suspicion, as if economics is considered more important than education (the reality is, university education can never be separated from revenues and expenditure).

Even open universities, those best positioned to become mega-universities, must courageously face the future prospects of conventional universities engaging in more distance education; the ever-increasing possibilities of GenAI; relatively poor graduation rates; and the challenges of further open-ing their models to more innovation. Mega-universities face similar issues.

Courage is also needed by university leaders as they seek to gain a better self-understanding of their university's preparedness for mega-university status. Paul, on p. 128 in chapter 2.3, proposes nine searching questions, and insists that changes:

...need to be considered carefully in a climate of open dialogue and serious consideration of their long-term benefits, costs, and risks. This requires strong, team-based leadership and extensive professional development programmes to ensure internal and external community support for all steps in this process.

If indeed the only constant is change, courage becomes a constant requirement. Wang gives some clue as to the nature of continuous improvement that all mega-universities pursue to defend their prestige and reputation, on p. 184:

... open and mega-universities must continue to innovate and demonstrate that quality education and societal impact are not limited to the traditional university model. Strengthening academic rigour, enhancing global reputation, and emphasising the value of inclusivity and lifelong learning can help mega-universities gain the recognition they deserve and play a more prominent role in the global educational landscape.

'Strengthening,' 'enhancing,' and 'emphasising' are all courage-related terms for university leaders. Two chapters in this book emphasise the importance of leadership (Paul, Olcott Jr., chapter 2.2, and Paul, chapter 2.3). It is clear that, in the words of Olcott, Jr., 'leadership will become even more critical to positioning mega- and open universities in the future' (p. 113). Such leadership must be insightful, visionary, and courageous.

Conclusion

We have gone from 11 mega-universities with more than 100,000 students enrolled in degree-level programmes in 1996, to approximately 30 today (see Appendix). At least four are now giga-universities, enrolling more than 1,000,000 students per year. What may have been unusual in 1996 is now much more commonplace. Mega-universities present a proven and replicable model for higher education around the world.

We must also identify that, despite the distance teaching they have in common, there are many different models for mega-universities. The OUUK has a central campus, having withdrawn local presences some years ago; the OUC has thousands of learning centres across China. Some mega-university models still follow strict semesters; others

provide anytime enrolment. All are seeking to maintain a differentiation strategy; all are shaped by their history, and each is in various stages of open-ing.

One key question to be faced is, should universities seek to become mega-universities? Is the motivation a form of empire-building, growth for growth's sake? Is big necessarily better? I hope readers can discern that the sole aim for mega-university status is, to again quote LeBlanc's excellent statement, '*always to do better work for more students.*' The benefits to size, designed well, are to make education more... yes, to repeat: available, inclusive, scalable, and sustainable. Purposeful *design*, built on a strategy of differentiation, aligning the macro-, meso-, and micro-levels of activity, is sorely needed across contemporary universities. Ultimately, mega-university status reflects not so much a pursuit of size than it is a reward for strategic advocacy, differentiation, adaptation, alignment, and courage. However, size does have its privileges; the number of 100,000 active students, after all, was originally decided upon by Daniel because it was the scale 'that should be able to demonstrate economies of scale and competent logistics' (Daniel, 1996, p. 29).

Open universities certainly show the way. Mishra & Panda (2025), in their excellent *Handbook of open universities around the world*, write that open universities (the first mega-universities) feature economies of scale; social justice; high quality of course materials; technology-mediated education; and learner support. The mega- and giga-universities mentioned in this book show how traditional university formats can build on these features, without compromising their educational standards, in pursuit of educational practices that benefit everyone.

Copilot summary

This concluding chapter discusses the evolution and significance of mega-universities, emphasising their role in providing available, inclusive, scalable, and sustainable education. It highlights the benefits of large-scale institutions, such as economies of scale, social justice, and high-quality course materials. The chapter also addresses the challenges and motivations behind universities seeking mega-university status, stressing the importance of leadership, innovation, and differentiation. Ultimately, it advocates for a strategic alignment of macro-, meso-, and micro-levels to enhance the availability and quality of education for a broader audience.

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Author profile

See author profile on p. 9.

APPENDIX: Mega-universities as at mid-2025

Mark Nichols

A mega-university is arbitrarily defined by Daniel (1996) as ‘a distance-teaching institution with over 100,000 active students in degree-level courses... a mega-university combines three criteria: distance teaching, higher education, and size’ (1996, p. 29). These three criteria group universities with a particular approach to teaching and learning and organisational design toward improving the availability, inclusiveness, scalability and sustainability of education in a distinctive way. As we will see, though, none of the three is easy to discern today.

‘Distance teaching’ is the most problematic of the three. Daniel insists that the title of mega-university is restricted to ‘those institutions where distance education is clearly the primary activity’ (1996, p. 29). In the intervening years since 1996, it is increasingly common for universities to add ‘online’ programmes to their activities, whether in the form of fully remote, or ‘blended’ (Vaughan et al., 2013), or ‘hyflex’ (‘bichronous’) models (Martin, et al., 2020). Whether these represent ‘distance teaching,’ and when they crossover into a ‘primary activity’ of distance education is open to debate. Mishra & Panda (2025) draw attention to the work of Tight (2024), who, drawing from a systematic review of international literature, proposes that modern universities emphasise three key elements:

- the greater use of technology in providing online and blended learning,
- the continuing development of higher education (both teaching and research) beyond the university, and
- an emphasis on the mass role of undergraduate provision (Tight, 2024, p. 57).

Increasingly, universities worldwide see themselves as concerned with overcoming distance and, in the terms of my chapter 2.5 in this book, open-ing up education. Many mega-universities themselves have a generous network of study centres in their host nation; the difference between these as tutorial centres supporting a distance model, and those used for traditional in-person teaching purposes, is not easy to discern. Those universities with multiple campuses challenge traditional approaches of ‘distance teaching,’ whereby more traditional, in-person approaches might sit alongside classical distance teaching practice. As we will see in the table, the category of ‘Distance/In-person’ must often be combined to ‘Both.’

‘Higher education’ may not infer what it did some 30 years ago, either. Micro-credentials, MOOCs, lifelong learning opportunities (recall the Open University of China’s Senior University of China) may or may not be at degree-level and may not necessarily count as academic equivalents to traditional courses. The relationship across lifelong learning and higher education needs some consideration as many universities broaden their learning opportunities beyond formal awards.

Perhaps surprisingly, ‘size’ is another difficult criterion. The incredible uptake of Massive Open Online Courses (MOOCs), sometimes for degree credit, is one issue whereby students enrolling in very small courses might be counted; another difficulty is the currency of student enrolment numbers, and who should be counted (and how), as outlined above. Some universities offer more than ‘degree-level’ courses, the term itself leaving some uncertainty as to whether post-graduate and doctoral studies might be included. Data also works against us. Some enrolment figures might include the total number of courses enrolled in, rather than a count of individuals; it is also possible that some numbers are cumulative, rather than annual, or reflect only newly added students rather than the entire student population. Student status might also be a factor. In the case of Anadolu University, a number for students of 1,117,132 ‘Active’ students can be found, immediately followed by a number of 2,007,249 ‘Active-Passive’ students.⁵² The number of 1,116,282 assigned to Anadolu University in the table below best fits the ‘Active’ profile and dates to 2023, but the ‘Active-Passive’ might legitimately be presented in its stead. In some instances, numbers are simply not readily available. One example is the Open University of Fujian, which is likely a mega-university however no estimate of enrolments can be conveniently sourced, leaving it off the list that begins on p. 215.

A further major challenge, quickly found when looking into what constitutes a mega-university, is determining just what counts as ‘a’ university. Many ‘universities’ are in fact university *systems*, collections of university colleges, schools, or campuses sharing a common chancellor or board of directors. We can certainly remove such universities from our consideration of mega-universities: not only are they not primarily involved in distance education; their individual colleges usually have much less than 100,000 enrolments. But the complexity of in-person universities represented in systems has a close parallel in those open university systems made up of multiple campuses. Should these be considered single universities? Consider the case of the Open University of China (OUC); with 4.57 million students, it might be considered the world’s largest single university. However, the OUC has 45 provincial branches, 1,454 city branches, 2,900 learning centres, and a series of 25 schools and colleges (Xianxu, 2025). The OUC is both a university and a system, also aligned with Beijing, Guangdong, Jiangsu, Shanghai, and

⁵² <https://www.anadolu.edu.tr/en/about-anadolu-1/about-anadolu/anadolu-at-a-glance> (accessed 4 August 2025).

Yunnan Open Universities as of 2012 (some themselves mega-universities), and a further 39 provincial Radio and TV Universities (RTVUs) becoming open universities in 2022.

From a different angle, consider SUNY Online (part of the State University of New York system). Though technically a part of the SUNY system, it has its own website⁵³ and independent student count. In Daniel's initial definition for mega-universities it does not qualify, as it is part of a university system not primarily concerned with distance teaching. However, the scale and significance of SUNY Online and its functional separate-ness make it, in my view, an example of how the category of mega-university may need to further extend. If so for SUNY, what other system-aligned functions might we count?

Sadly, a further difficulty in reliably listing mega-universities is the lack of scholarship and reliable online sources dedicated to them. Before Mishra & Panda (2025), the view of open and mega-universities around the world was fragmented at best. Two online lists, Wikipedia, and the Searchable Directory of Open Universities hosted by ContactNorth,⁵⁴ contain conflicting information; the Wikipedia list also includes many education 'systems,' including California Community Colleges (CCC) with an enrolment of 1,800,000 students (this across some 116 accredited colleges spread across the entire State). The Wikipedia entry for the CCC notes that, 'Despite its plural name, the system is consistently referred to in California law as a singular entity.'⁵⁵ The Wikipedia list also suffers from out-of-date sources, even when sources are available (more on this below), and it fails to include several major institutions.

Errors also creep in (and the table presented in this Appendix is likely no exception). At the time of access, the Wikipedia page *List of largest universities and university networks by enrolment* showed Indira Ghandi Open University (IGNOU) as the largest mega-university in the world with 7,140,000 as its 'Enrollment' figure. The source cited for that number⁵⁶ provided the figure of '7.14 lakh' enrolled students, a lakh being 100,000. The Wikipedia entry had accidentally added a further zero to the IGNOU's cited figure. Significantly, no universities from China are included in the Wikipedia list; fortunately, Wang's case study in this book and the helpful overviews in Mishra & Panda (2025) go somewhat toward filling this gap.

It should be clear by now that the table in this Appendix is flimsy as a reference. However, we should note that even counting open universities is difficult. Within Mishra & Panda (2025), the numbers 'over 80,' 'some 90,' and 'between 60 and 80' are given (the *Handbook* settles on 78 identified institutions). Southern New Hampshire University is left off the list, as it is not an open university (even though it resembles the best of them

⁵³ <https://explore.suny.edu/> (accessed 4 August 2025).

⁵⁴ <https://teachonline.ca/tools-trends/universities> (accessed 4 August 2025).

⁵⁵ https://en.wikipedia.org/wiki/California_Community_Colleges (accessed 4 August 2025).

⁵⁶ <https://timesofindia.indiatimes.com/home/education/in-9-yrs-number-of-sc-students-at-ignou-rose-by-248-sts-by-172/articleshow/71572573.cms> (accessed 4 August 2025).

and is partly modelled after the Open University, United Kingdom). Likewise, Western Governors University (WGU) is missing from the *Handbook* even though it meets Tight's criteria. The institution I am proud to work for, Open Polytechnic, is likewise excluded (possibly because it is a polytechnic; in all other ways, including offering bachelor's degrees, it resembles and even exemplifies an open university). The authors note that they have included the Open University of Brazil (a consortium of universities), but Open Universities Australia is excluded; inexplicably, the Universidad Abierta y a Distancia de México, Mexico's open university (the name translating to 'Open and Distance University of Mexico,') is also left off the list. However, Athabasca University is included, even though it became a distance university as the result of a pilot project and was not originally modelled on an open university.⁵⁷ Dogmatism over what should be 'in' and what should be left 'out' is unwise.

So, to sum my disclaimers for the list of mega-universities that follows:

1. The education model of a university is not always clear. Some universities offer both in-person and distance education, with the distinction not always clear. Blended models are also on the rise.
2. Enrolment figures are not always current, clearly available, or may count different things across universities. Lifelong learning opportunities, MOOCs, and micro-credentials will make this increasingly difficult. Some universities, then, might slip on either side of mega-university status; some mega-universities may not be listed, and some may be incorrectly included depending on what is counted, and how.
3. Some disclosed numbers are intended as estimates, making ranking by size difficult.
4. Some mega-universities may simply be missing.
5. It is not always clear which universities are, in fact, systems made up of multiple, aligned campuses. A university may consist of many university-style operations sharing the same governance.

A single accreditation is a helpful addition to criteria. This would remove the likes of the California Community College (even if they did 'go distance') and Open Universities Australia, a not-for-profit consortium of 23 universities offering online courses across Australia, each individually accredited and so made up of distributed entities. With these criteria applied, Open Universities Australia cannot be considered a mega-university despite its apparent single identity, emphasis of online (distance) learning, higher education focus, and more than 532,000 students.⁵⁸ However, this may exclude the SUNY Online program of the State University of New York. My purpose here is not to resolve all of these issues, only to point them out; I trust the reader can be comfortable with the complex, convoluted, and sometimes contradictory realities involved. Listing

⁵⁷ https://en.wikipedia.org/wiki/Athabasca_University (accessed 4 August 2025). See also Daniel, p. x of this volume.

⁵⁸ <https://www.open.edu.au/> (accessed 4 August 2025).

mega-universities should be simple. Instead, it warrants the focus of a dedicated research project.

So, the list in this Appendix is based on that of all universities with more than 100,000 students as provided by Wikipedia (Wikipedia, *List of largest universities and university networks by enrollment*).⁵⁹ Universities classified as ‘in-person’ are removed on the basis of their primary, and perhaps sole, educational model being in-person (the exception of SUNY Online is noted above). The order differs somewhat from the Wikipedia list as of 4 August 2025 for two reasons: first, our list here includes some additional mega-universities (isolating SUNY Online, and including the WGU and some based in China); and second it contains different, updated and, whenever possible, verified enrolment numbers for each mega-university. However, not all sources are equal, and one institution on the list could not be further verified.

Ultimately, while 32 institutions are listed, it would not be accurate to say that there are 32 mega-universities.

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⁵⁹ [List of largest universities and university networks by enrollment - Wikipedia](https://en.wikipedia.org/wiki/List_of_largest_universities_and_university_networks_by_enrollment) | https://en.wikipedia.org/wiki/List_of_largest_universities_and_university_networks_by_enrollment (accessed 4 August 2025).

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	Institution	Location	Continent	Founded	Affiliation	Distance/ In-Person	Enrolment
	Open University of China	Beijing, China	Asia	1978	Public	Both	4,570,000
	Indira Gandhi National Open University	New Delhi, India	Asia	1985	Public	Both	3,500,000 ⁶⁰
	Anadolu University	Eskişehir, Turkey	Asia	1958	Public	Both	1,116,282 ⁶¹
	Illama Iqbal Open University	Islamabad, Pakistan	Asia	1974	Public	Both	1,027,000 ⁶²
	Payame Noor University	Iran	Asia	1987	Public	Both	940,515 ⁶³
	University of Delhi	Delhi, India	Asia	1922	Public	Both	700,000 ⁶⁴
	Bangladesh Open University	Gazipur, Bangladesh	Asia	1992	Public	Both	672,859 ⁶⁵
	Guangdong Open University	Guangzhou, China	Asia	2010	Public	Both	608,000 ⁶⁶
	Universitas Terbuka	Jakarta, Indonesia	Asia	1984	Public	Distance	551,022 ⁶⁷
	Laureate Education, Inc.	Intl.	Global	1999	Private	Both	470,000 ⁶⁸
	Dr. B R Ambedkar Open University	Telangana, India	Asia	1982	Public	Distance	450,000 ⁶⁹

⁶⁰ An approximation based on 2023–2024 (Panda & Rupam, 2025).

⁶¹ Bozkurt (2025).

⁶² <https://www.aiou.edu.pk/> (accessed 4 August 2025).

⁶³ <https://pnu.ac.ir/en-US/DouranPortal/7317/page/About-the-PNU> (accessed 4 August 2025).

⁶⁴ <https://www.du.ac.in/index.php?page=about-du-2> (accessed 4 August 2025).

⁶⁵ <https://bouacbd.org/index.php/bou> (accessed 4 August 2025). This number is listed as ‘cumulative,’ annual student numbers are likely closer to 74,000 (Rahman, 2025). The number 650,000 in the original Wikipedia list is sourced to a 2006 article, https://web.archive.org/web/20111001101728/http://tojde.anadolu.edu.tr/tojde22/pdf/article_12.pdf (accessed 4 August 2025).

⁶⁶ Jingchun et al. (2025).

⁶⁷ Darajat & Kosasih (2025).

⁶⁸ <https://www.laureate.net/about> (accessed 4 August 2025).

⁶⁹ This number may be closer to 120,000 as listed on the university’s public website, <https://braou.ac.in/#gsc.tab=0> (accessed 4 August 2025). The Wikipedia number is taken from a 2012 archive, <https://web.archive.org/web/20120102074803/http://www.braou.ac.in/profile.htm> (accessed 4 August 2025). A most recent volume of close to 62,000 ‘Fresh Enrollment’ is given for 2021–2022 by Chakrapani (2025); it is unclear as to whether this represents solely new (likely) or all students enrolled at the time.

	University of South Africa	Pretoria, South Africa	Africa	1873	Public	Distance	370,000 ⁷⁰
	National Centre for Distance Education	France	Europe	1939	Public	Distance	350,000 ⁷¹
	Henan Open University	Zhengzhou, China	Asia	2010	Public	Both	263,000 ⁷²
	Southern New Hampshire University	New Hampshire, United States	North America	1932	Private	Both	251,000
	Universidad Nacional de Educaci a Distancia	Spain	Europe	1972	Public	Both	200,000 ⁷³
	Open University	Milton Keynes, UK	Europe	1969	Public	Both	198,721 ⁷⁴
	SUNY Online	New York, United States	North America	2005	Public	Distance	193,000 ⁷⁵
	Jiangsu Open University	Nanjing, China	Asia	2010	Public	Both	186,000 ⁷⁶
	Shandong Open University	Jinan, China	Asia	2010	Public	Both	179,600 ⁷⁷
	Western Governors University	Utah, United States	North America	1997	Private	Distance	156,935 ⁷⁸
	National Open University of Nigeria	Nigeria	Africa	2002	Public	Distance	141,036 ⁷⁹
	University of the People	California, United States	North America	2009	Private	Distance	152,000 ⁸⁰

⁷⁰ <https://www.unisa.ac.za/sites/corporate/default/About> (accessed 4 August 2025).

⁷¹ https://www.wikiwand.com/en/articles/National_Centre_for_Distance_Education (accessed 4 August 2025).

⁷² <https://www.haou.edu.cn/schoolOverview> (accessed 4 August 2025).

⁷³ <https://www.uned.es/universidad/inicio/conocenos.html> accessed... However, Gil-Jaurena et al. (2025) identify 123,364 undergraduate and 10,304 master's students from 2023-2024.

⁷⁴ The Open University (2024).

⁷⁵ <https://www.suny.edu/counselor/faqs/first-year-students/> (accessed 4 August 2025).

⁷⁶ Tang & Zhang (2025).

⁷⁷ https://www.sdou.edu.cn/art/2024/6/11/art_9564_185644.html (accessed 4 August 2025).

⁷⁸ https://en.wikipedia.org/wiki/Western_Governors_University (accessed 4 August 2025).

⁷⁹ Ofulue (2025). The initial Wikipedia volume was listed as 515,000 referencing <https://www.premiumtimesng.com/news/more-news/297622-enrolment-at-nigerias-national-open-university-hits-515000.html?tztc=1> (accessed 4 August 2025), the page itself noting that of that 'current' enrolment figure 'only 150,000' were active.

⁸⁰ <https://www.uopeople.edu/about/uopeople/uopeople-factsheet/> (accessed 4 August 2025).










	Madhya Pradesh Bhoj Open University	Bhopal, Madhya Pradesh, India	Asia	1991	Public	Distance	150,000 ⁸¹
	Liberty University	Virginia, United States	North America	1971	Private	Both	140,000 ⁸²
	Norte do Paraná University	Londrina, Paraná, Brazil	South America	1972	Private	Both	130,000 ⁸³
	UNIMINUTO system	Colombia	South America	1990	Private	Both	116,782 ⁸⁴
	Virtual University of Pakistan	Lahore, Islamabad, Pakistan	Asia	2002	Public	Distance	114,000 ⁸⁵
	Universidad Abierta y a Distancia de México	Mexico City, Mexico	North America	2012	Public	Distance	110,650 ⁸⁶
	Korea National Open University	South Korea	Asia	1972	Public	Both	105,688 ⁸⁷
	Shanghai Open University	Jinan, China	Asia	2010	Public	Both	100,000 ⁸⁸
	IU Intl. Uni. of Applied Sciences	Erfurt, Germany	Europe	1998	Private	Both	100,000 ⁸⁹

Table Appendix: Suggested list of mega-universities as of August 2025.

⁸¹ This represents its highest number, circa. 2016-2017. According to Tiwari & Burra (2025), the actual number 2023-2024 is 79,306. Online it is possible to find the number 4,300,000, usually as a misquotation of 'established ODL institutions like MPBOU can offer qualitative courses, potentially increasing registered ODL students from 4.3 million to 10 million...'

⁸² <https://mpbou.edu.in/about-university-> (accessed 4 August 2025).

⁸³ <https://www.liberty.edu/about/liberty-university-quick-facts/> (accessed 4 August 2025).

⁸⁴ <https://www.crunchbase.com/organization/unopar-university-of-northern-paran%C3%A1> (accessed 4 August 2025).

⁸⁵ This figure was not able to be verified.

⁸⁶ <https://vu.edu.pk/> (accessed 4 August 2025).

⁸⁷ <https://www.economia.gob.mx/datamexico/en/profile/institution/universidad-abierta-y-a-distancia-de-mexico> (accessed 4 August 2025).

⁸⁸ <https://engglobal.knou.ac.kr/engknou/index.do> (accessed 4 August 2025).

⁸⁹ <https://www.sou.edu.cn/2017/0119/c10033a6621/page.htm> (accessed 4 August 2025).

⁹⁰ <https://www.iu.de/news/en/iu-international-university-of-applied-sciences-reaches-new-milestone-of-100000-students/#:~:text=With%20over%20100%2C000%20students%2C%20IU%20International%20University%20of%20Sciences%20%28IU%29%20is%20the%20largest%20university%20in%20Germany> (accessed 4 August 2025), as at 2022.

Mega-universities and opening education by design

My 1996 book *Mega-universities and knowledge media: technology strategies for higher education* began as a Master's thesis. Its impact amazed me. I am flattered that these eminent scholars have come together 30 years later, under the wise guidance of Mark Nichols, to reflect on the current state of mega-universities.

The writing is a rich compendium of information and opinion on their contributions - and of the obstacles facing campus institutions seeking to adopt some of their winning ways of openness and scale.

The essays explore the designs vital to a mega-university's establishment and continued success. Mission, strategy, and leadership are addressed from various angles while all authors stress the importance of getting learning, teaching, and administrative technologies right, not least through intelligent adoption of the evolving opportunities of artificial intelligence.

Sir John Daniel, O.C.



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