strategy&
Part of the PwC network

Digitising higher education

How rapid digitisation is changing university business models

COVID-19 has dramatically hastened the pace of digitisation of course delivery at universities. Higher education is not the first sector to have undergone rapid digitisation. In this article, we explore the lessons from other sectors, and what the university business model of the future might look like.

How COVID-19 broke down the barriers to digitisation

Universities have been a part of many societies for centuries, with their remarkable resilience perhaps only exceeded by religious institutions. The traditional university business model revolves around face-to-face learning and teaching via structured courses of study with set hours informed by deep scholarship and research, albeit with well-known exceptions such as distance learning in rural communities and institutions like Open Universities.

In just a few short months, COVID-19 forced universities to move to a model where course delivery is almost entirely online. However, while the pandemic has been the catalyst for adapting their business model, the forces underpinning the movement towards greater digitisation – so starkly reveal during COVID-19 – are not new.

Prior to the pandemic, universities were using learning management systems to put course notes online, with some entry-level courses offered on cross-university platforms such as Coursera or edX, while non-qualification associated content was also being offered online at minimal cost or for free (e.g. Khan Academy). Then there has been the largely unrealised promise of Massive Open Online Courses (MOOCs), excitement about micro-credentials, and numerous edtech start-ups threatening elements of universities' business.

These forces were at play prior to the onset of COVID-19, but they did little to change the prevailing business model. Undergraduate and the majority of postgraduate education continued to be delivered face-to-face in the classroom. Indeed, with the growth of the middle class in many countries and the resultant increase in the number of students seeking an international higher education experience, many universities found they had more students and financial resources than ever before.

Then came COVID. The pandemic revealed many of the virtues of moving to a more digitally delivered educational experience, while also revealing its many challenges. The changes forced by the rapid digitisation of the sector will not be undone, so what is emerging now will come to define the new 'normal'. Higher education is not the first sector to have undergone such a dramatic challenge to its existing business model through rapid digitisation, so it is worth examining the lessons from some of those other sectors.

Digitisation across industry sectors

Media and entertainment

The media and entertainment sector – particularly music, TV and cinema – has seen two major waves of digital transformation. There have seen subtle differences in how the waves affected the different media, but the thrust is common.

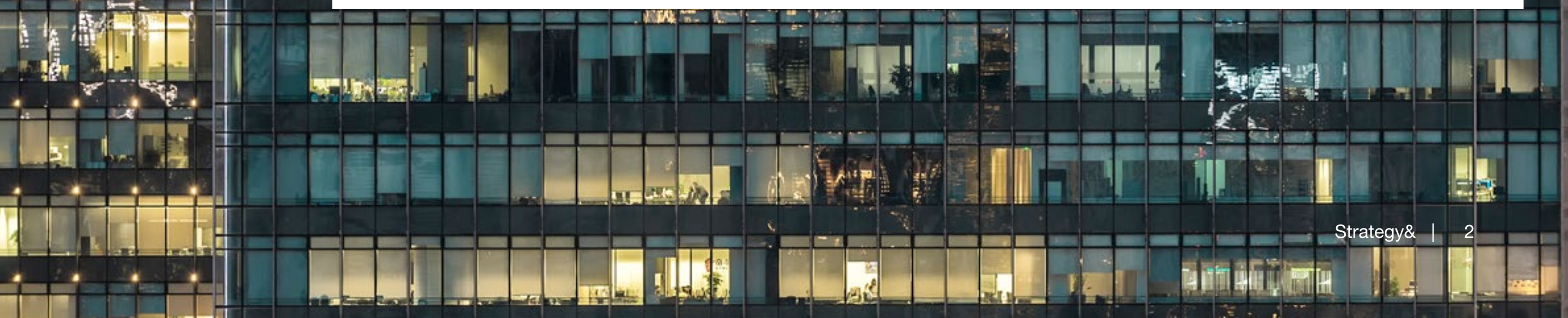
The first wave of digitisation reduced the cost of distributing content. For example, in music, the mp3 format superseded CDs and other physical formats. The significant reduction in the cost of distribution meant consumers could own larger digital music libraries on portable or home devices. Furthermore, the rise of peer-to-peer file sharing networks meant anyone with a computer and internet access could send and receive any music file, for free. The lack of an adequate regulatory framework meant content could be shared with little or no recompense to the artist or record label. However, lower distribution costs also reduced the barriers to entry for the industry. Artists could more easily distribute their music and a proliferation of content ensued.

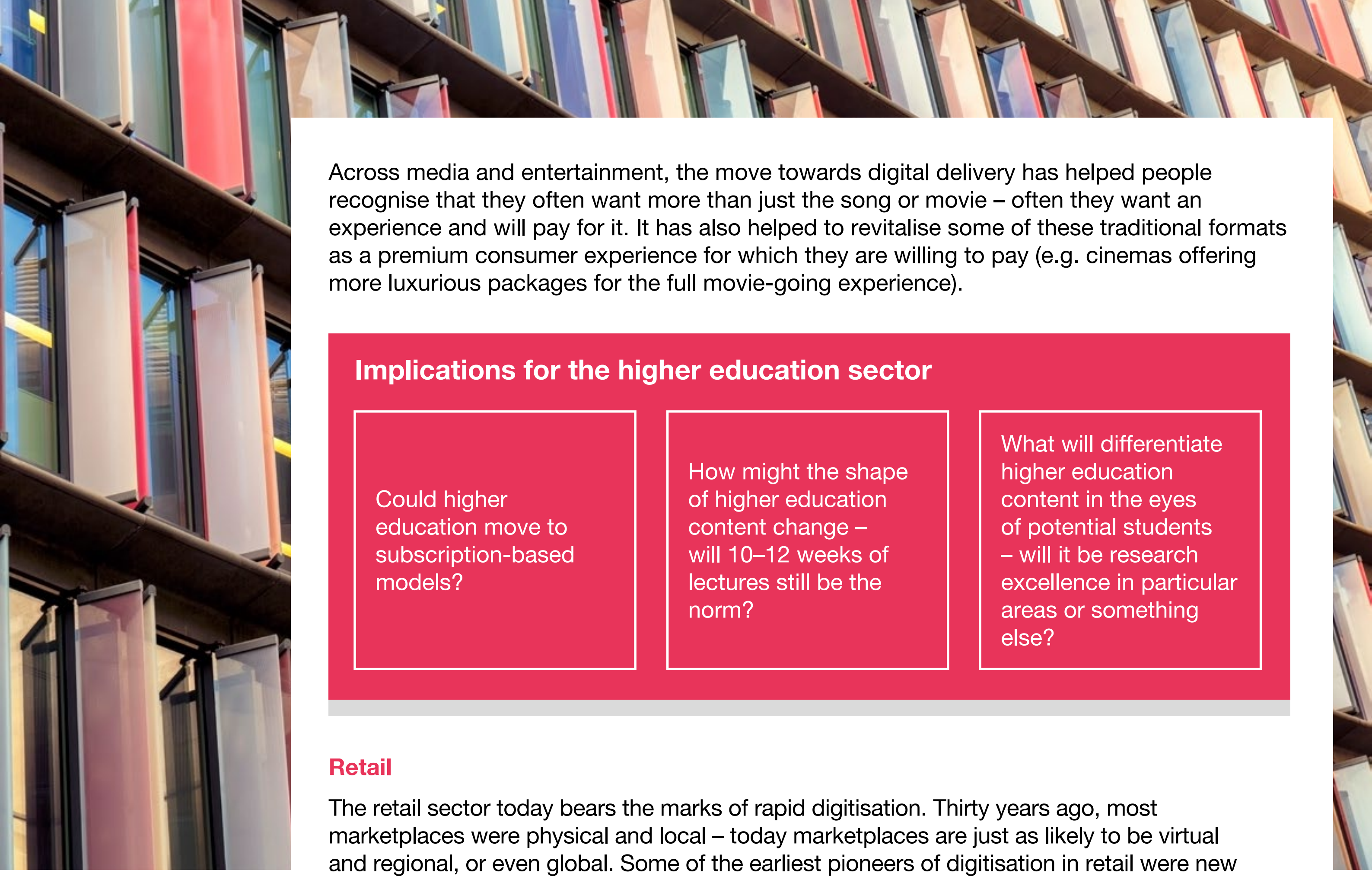
The second wave of transformation saw mp3 files superseded by streaming services. Current platforms such as Spotify and Apple Music operate via a subscription model, giving consumers access to an enormous library of music for a monthly fee. These platforms support low costs and, importantly, offer a business model for content creators that provides them with an economic return. The economic balance of power has shifted to these platform providers who use their scale and enhanced user experience as a gateway to the listener's wallet. In the US, streaming revenue was around US$5 billion in 2019, accounting for over 80% of total US music industry revenue, with Spotify having more than a 100 million subscribers[1].

In television, the waves are similar, even if not all the outcomes are the same. The first wave of transformation saw a shift away from owning and renting content. Video-on-demand streaming platforms such as Netflix and Hulu offered a cheaper and more convenient alternative, giving consumers access to enormous libraries of high-quality content, on demand. Traditional broadcast television declined, further accelerating the migration of content onto streamlining platforms.

A second wave is seeing an increased focus on content and curation. As more streaming platforms saturate the market, exclusive content is an important driver in the acquisition and retention of subscribers. The recent success of Disney+, reaching 10 million subscribers in 24 hours, showed how major studios could compete with established players by offering high-quality, exclusive content. Early entrant Netflix initially relied on third-party content, but expensive content deals have eroded margins so the steaming service is now investing heavily in producing its own content. A Nielsen survey found the top four reasons consumers subscribe to a streaming service are content-driven, tipping the balance of power to content creators[2]. Where amateur content producers on YouTube can compete for a viewer's time, curators are increasingly important as audiences rely on trusted sources (whether proven content developers like Disney, influencers or friends).

1. Anne Steele 2019, 'Music Revenue Surges on Streaming Subscription Growth', *Wall Street Journal*, 5 September.
2. Nielsen Media 2020, 'The Nielsen total audience report: February 2020', *nielsen.com*, 11 February.





Across media and entertainment, the move towards digital delivery has helped people recognise that they often want more than just the song or movie – often they want an experience and will pay for it. It has also helped to revitalise some of these traditional formats as a premium consumer experience for which they are willing to pay (e.g. cinemas offering more luxurious packages for the full movie-going experience).

Implications for the higher education sector

Could higher education move to subscription-based models?	How might the shape of higher education content change – will 10–12 weeks of lectures still be the norm?	What will differentiate higher education content in the eyes of potential students – will it be research excellence in particular areas or something else?

Retail

The retail sector today bears the marks of rapid digitisation. Thirty years ago, most marketplaces were physical and local – today marketplaces are just as likely to be virtual and regional, or even global. Some of the earliest pioneers of digitisation in retail were new companies selling undifferentiated products that did not need to be seen prior to purchase (think Amazon with books). Platform marketplaces grew by reducing costs (because they didn't need a retail footprint) to achieve a virtuous circle – lower costs attracted more customers which allowed a further increase of scale for a wider product range than physical stores, which in turn attracts more customers (and so on). Modern platform economics was created.

The move by the retail sector to platforms was not confined to the US. In China, Alibaba has achieved massive scale and provides business support and a ready path to market for small and medium enterprises. In Australia, The Iconic has grown rapidly to be Australia's largest pure play online retailer, earning approximately $370 million in revenue in 2019[3]. Across all platforms, helping customers navigate their way through different options is critical, often leading to significant investments by retailers in deep analytics about customer preferences.

For some product categories, such as fashion apparel and footwear, bricks-and-mortar stores continue to play an important part in the omni-channel retail offering. But even here the role of physical stores has changed because of the ability to 'showroom' products online. Physical stores are being recrafted to provide a more upmarket experience, which focus on allowing customers to interact with product and seek more personalised advice from staff. Similarly, bookshops have not completely vanished in the face of cheaper online alternatives, but have instead morphed into experiential centres often integrated with coffee shops.

When we look at the business models that are enduring today in retail there is still a variety. Large platforms that offer low prices, extensive product ranges and delivery to the door are becoming the default for largely commodified products – creating global monoliths and driving out smaller, local providers. New, digital-only business models will continue to appear and evolve, integrating product and service manufacturing in new ways. Niche, in-person providers can survive and thrive by focusing on the experience as much as the products and services they are selling, or by offering something that is inherently local and community based. Then there are the omni-channel providers able to blend in-person and online provision of goods and services, following customer preferences, who have evolved from traditional retailers.

3. Holly Johnson 2019, 'This is what drives Australia's largest online fashion retailer', *CEO Magazine*, 12 November.

Implications for the higher education sector

What are the experiences associated with university that students might pay for over and above just online lectures?	How might we help curate the mass of higher education content in the future so students can find the right content for them?	What will universities' physical spaces look like in the future?

Financial services

The traditional perception of financial services is a sector made up of large, slow-moving organisations, bound by strict regulatory compliance requirements, complicated processes and power asymmetry with their customers. Yet those perceptions do not reflect the reality of how digitisation has changed parts of the sector. Fintech challengers to traditional institutions have grown rapidly. In 2018, the fintech sector was valued at almost US$128 billion and, despite increased regulation and scrutiny, it is showing no signs of slowing down, with investment expected to grow to US$310 billion by 2022[4]. These challengers are heralding a new age of possibilities for how customers access financial services. Existing financial services institutions are also embarking on major, enterprise-wide digital transformations and embracing new, digital ways of doing business, including developing partnerships and ecosystems with fintech providers.

Digitalisation has allowed financial institutions to perform business operations more effectively and efficiently. Process simplification, automation, artificial intelligence and machine learning have meant that many repetitive, transaction-based activities can now be fully digitised with lower ongoing cost. Beyond just operational efficiency, retail banks in particular have been able to develop a better customer experience through digitisation. By designing easy-to-use interfaces with a range of self-service functions, retail banks have changed the way they interact with customers. Customers are also embracing the convenience that digital banking brings, with a Roy Morgan survey showing 47% of customers used mobile banking in the last six months, compared to 23% of customers who visited a branch[5]. This evolution has also drastically changed the role of customer service staff in financial institutions. With basic, transactional tasks now automated or done via self-service functionality, staff are now focused on more complex tasks or being a point of escalation.

4. Natasha Ketabchi 2020, 'State of the fintech industry', *toptal.com.*
5. NRoy Morgan 2018, 'Big decline in usage of bank branches', roymorgan.com (Australia), November 30

In insurance, there is a shift towards digitising sales channels for insurance products that are relatively simple and straightforward, such as travel insurance and motor vehicle insurance. Customers are still favouring face-to-face interactions for complex products that require personalised advice. Beyond customer-facing changes, digitisation is also helping insurance companies in back-end processes. Insurance companies are able to automate data collection and basic processing, helping them discover important patterns and insights, from valuable new customer segments, to possibilities of insurance fraud.

A big challenge that remains for many financial institutions is the complex legacy systems that are often still used to support the business in meeting regulatory requirements. Back office complexity has often meant financial services organisations have digitised front-end customer interaction activities, but still retain legacy product management systems.

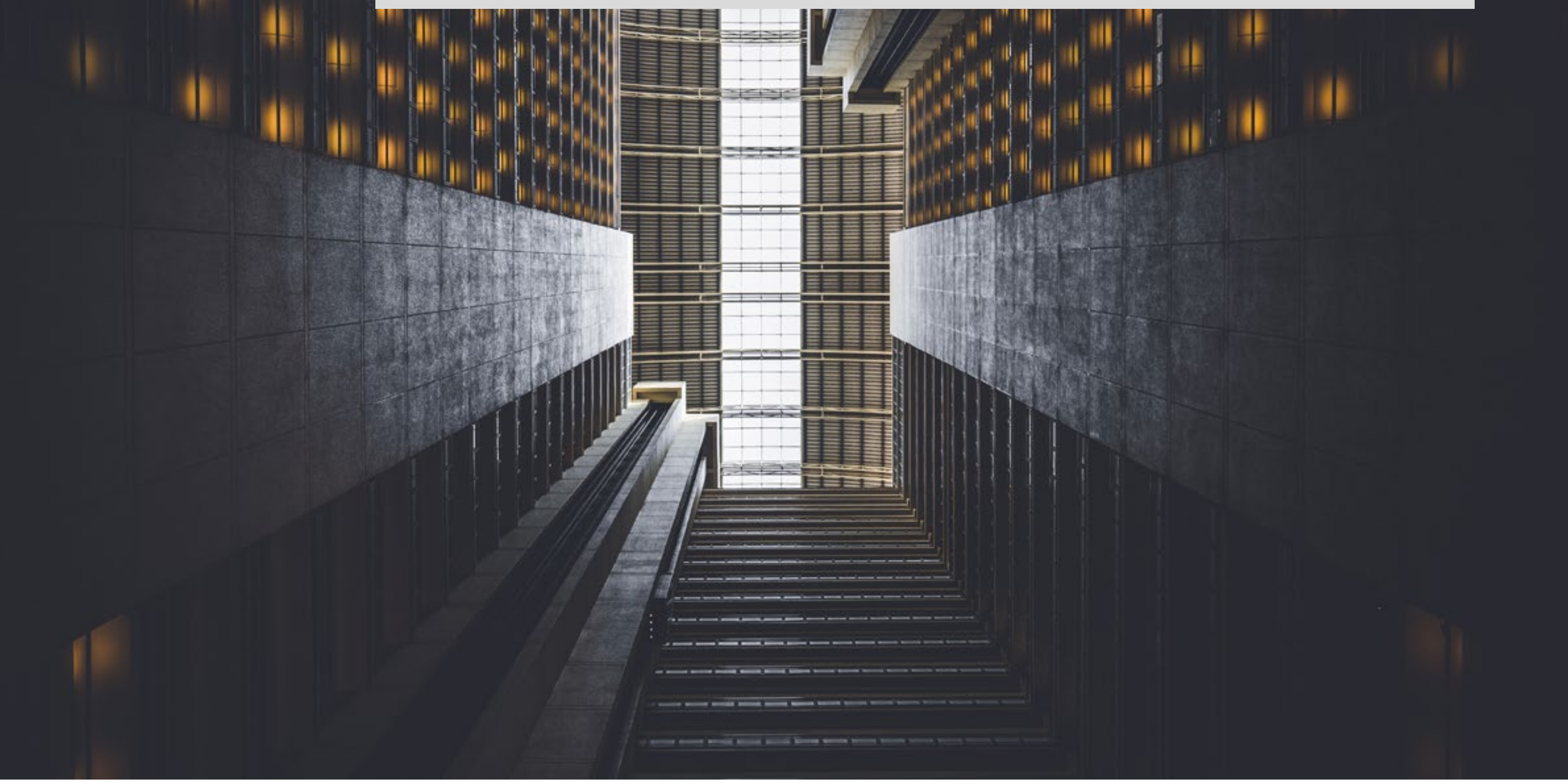
From a business model perspective, traditional financial services organisations have capabilities difficult for new competitors to replicate – access to central bank exchange settlement accounts, risk management skills, treasury and funding skills, and experience meeting the complex regulatory requirements that provide public confidence in their activity. As such, the digitisation of financial services has not yet dislodged incumbents as it has in other sectors.

Implications for the higher education sector

How might students' needs be stratified and served more effectively through increased digitisation?

To what extent might students want to use different channels for learning in the future (vs just focusing on a single channel), and what does that mean for future business models?

What are the different higher education ecosystems that might evolve in the future to better meet the range of student needs?



Some common lessons

Every sector has its own peculiarities. Yet underlying economic factors can be like gravity in pulling industries in particular directions. Here are some of the common lessons that might be relevant for higher education when we look at the experience of other industries with rapid digitisation.

01 **Where content is undifferentiated or consumers want to combine content from multiple providers, then platforms are the dominant force.** A fundamental impulse of digitisation is lowering cost. Amazon and Spotify have been so successful because they have scale to deliver undifferentiated content so consumers know that they can get what they want cheaply and efficiently on those platforms.

02 **Where content can be differentiated, then platforms are not as dominant, with content providers being more prominent.** Where there is sought-after content, such as Star Wars on Disney+, or where there is a brand reputation for distinctive content, then consumers will follow the content, even if it is not on one of the big platforms.

03 **It can be hard to survive in a digitised sector if you are not a scaled, low-cost platform or differentiated high-margin provider.** If you are a moderate margin undifferentiated provider, you will get squeezed at both ends. Perhaps the only way to remain sustainable might be through superior curation capabilities – be that analytically based or otherwise.

04 **Curation becomes increasingly valuable in a world where developing content is cheap, and it proliferates.** With a proliferation of content and reduced face-to-face engagement, data has proven a useful tool across all industries to effectively curate content in order to develop greater customer intimacy online. Where data is either not available or not trusted, mechanisms that engage peers or influencers in curation will rapidly fill the void.

05 **Experiences are valued and consumers will pay for them to complement a digital offering.** The enduring popularity of the luxury cinema experience and upmarket bookstores that focus on atmosphere and community indicate that for some customer segments, experience is as important as product.

06 **Customers will often lead you to the right digital vs in-person delivery model.** In financial services, rather than force consumers to use an online or digital channel, institutions have provided multiple channels and allowed consumer preferences to shape a rebalancing over time (even if that means guiding customers to different channels via relative customer experiences).

07 **Ecosystems will become more common, with ongoing returns protected where difficult to replicate activity is focused, even if ownership of other parts of the value chain changes.** In banking, the value lies in risk assessment and management, funding and relationships with the central bank. New competitors can threaten the business along multiple parts of the value chain, but so long as banks retain these central activities that are difficult to replicate, then they retain relevance and value.

08 **As digitisation enables more focused targeting of market segments, analytics become more critical for success.** In media and retail, digitisation has created a mass of new data about customers and their habits, increasing the competitive advantage through applying proprietary insights on curation, content targeting or pricing model decisions.

Five factors in determining change in higher education

While the exact evolution of business models is difficult to predict, the transformations experienced by other sectors in response to digitisation suggest profound change is also possible in higher education. The particular characteristics of higher education also provide some pointers for the future.

First, some types of content for programs and courses is similar across institutions and countries. There is a significant economic benefit in delivering more of this content online and allowing students to access it at their convenience, so the future will only see more of the ‘theory’ component digitised. Most programs and courses also require a ‘practical’ component, where theory is clarified by expert educators, practical applications are explained, and learning by doing occurs – all activities that generally benefit from face-to-face delivery.

Second, for undergraduate and some types of postgraduate education, there are important experiences that are broader than the specified content. For undergraduate students, these might be the development of life skills when first living away from home, forming cohorts with people from different backgrounds, or exploration of career and further study options. Many students place a high value on these experiences which can be some of the most formative of their time at university. Business schools recognise the importance of these experiences, so when competitors began offering online MBAs, many pivoted their programs to focus even more on providing internships, international business experiences and creating networking opportunities with firms and their alumni network.

Third, there are elements of the higher education value chain that can and likely will be disaggregated, allowing them to be provided by a range of specialist providers within an ecosystem. Those who develop online content may well be different from those who deliver the face-to-face practical application of that content. The promise of micro-credentials, if it is ever fulfilled, will see the delivery of discrete, ‘bite-sized’ elements of learning by a range of organisations that can then be consolidated into an overall qualification. Universities will retain an important role here – as self-accrediting bodies they are best placed to recognise achievement and the body of knowledge that is related to.

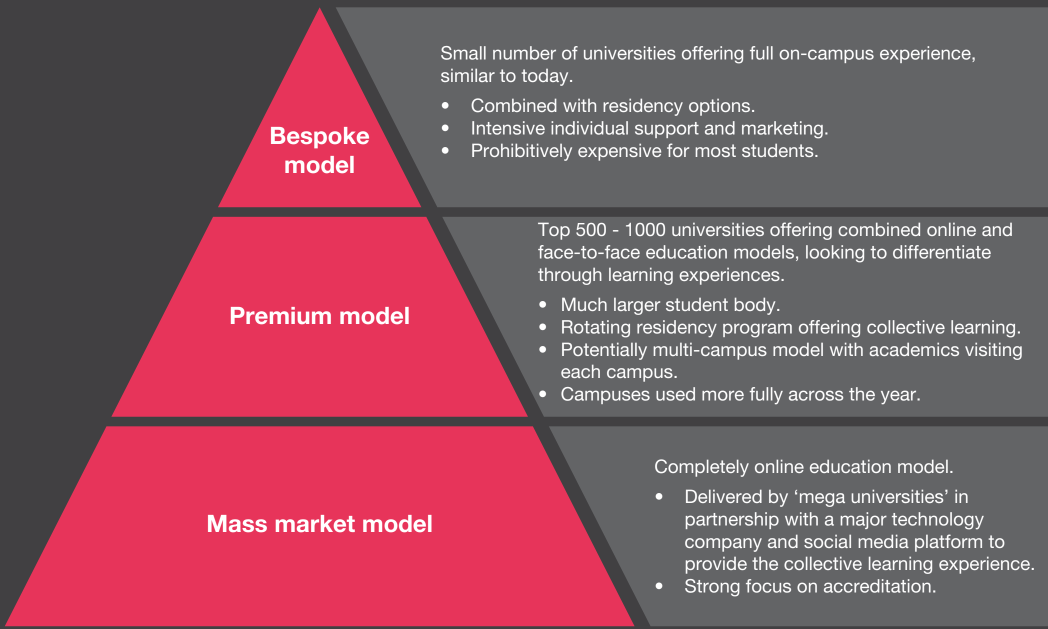
Fourth, higher education is a complex industry and the rapid growth in online educational offerings will only add to the level of complexity. There will be a strong need for curation of the wide-ranging offerings from credible institutions and brands. Knowledge and skills are intangible and students who do not possess them can find it difficult to determine the right course to take, or to avoid institutions who provide a substandard offering.

Fifth, many universities today have limited differentiation. Some seek to offer a wide range of courses to a large student base and, except for their location, are little different from other institutions. With digitisation negating the need to be local in order to deliver education, the future is likely to be increasingly challenging for these generalist institutions. Large-scale platforms with commoditised offerings will attract more price-sensitive students, while institutions that focus on providing specialist education through a more immersive student experience or superior research capabilities will attract students who are willing and able to pay for an enhanced educational experience.

A possible model for the future of higher education

When we consider those five factors, change seems inevitable. The question then is how radical will the change be? We see the possibility for a dramatic stratification in the business models of universities, as outlined in the figure below.

Figure 1: A possible future higher education market



The mass market component is made up of purely online education offerings delivered by 'mega universities' and an ecosystem of partner organisations, including technology companies as well as other discipline specific education institutions. The focus is on efficiency, range and providing accredited knowledge. These mega universities could hold a similar market position to Amazon in retail or Spotify in music. Accreditation is still provided by universities, but 'pieces' of content are delivered by a variety of providers.

Above that there is a premium university offering with a strong base of online theory education supplemented by more immersive experiences. These institutions compete not on the theory component of their offering, but the broader experience and quality of practical teaching offered in addition. However, the in-person experience is still very different to what is offered today, and students will not be on campus as a cohort for as long a period as they are currently

Finally, at the top level there are a small number of differentiated universities that offer something similar to what we have today, with a strong focus on face-to-face educational offerings and the full campus experience. These institutions will be more expensive and much more focused, offering a premium product like the luxury cinema experience or the Disney+ streaming service able to draw on the parent studio's superior content.

About the authors

James Twaddle is a Partner with Strategy& based in Sydney. James works on strategy and transformation in education and service industries. Areas of focus include capabilities-driven strategy, customer-centric transformations and helping organisations respond to disruptive industry trends. James started his career as an economist and holds a BCA (Hons) in Economics and Accounting from Victoria University of Wellington and an MBA (Distinction) from London Business School.

Tim Jackson is a Partner with Strategy& based in Sydney. He leads our Strategy Consulting Competency and has over 30 years' experience driving large transformational change programs. Key areas of focus include capabilities-driven strategy, operating model design, organisational restructuring and efficiency improvement. He has worked across a broad range of industries but has spent the last eight years working primarily in higher education. He has a BSc in Industrial Chemistry from UNSW and an MBA from Stanford University.

Ryan Kelly is a Director with Strategy& based in Sydney. Ryan works on strategy and transformation projects, with a focus on education and service industries. Areas of focus include strategy and operating model alignment, cost and service improvements and whole-of-organisation transformations. Ryan holds a BEng in Software Engineering (Hons) from the University of Technology, Sydney and an MBA from London Business School.

Tanya Han is an Associate with Strategy& based in Sydney. Tanya is a cross-industry generalist who has worked across market growth opportunities, operating model design and business model feasibility studies. Tanya holds a BCom from UNSW Australia.

strategy&
Part of the PwC network

Strategy&

Strategy& is a global strategy consulting business uniquely positioned to help deliver your best future: one that is built on differentiation from the inside out and tailored exactly to you. As part of PwC, every day we're building the winning systems that are at the heart of growth. We combine our powerful foresight with this tangible know-how, technology, and scale to help you create a better, more transformative strategy from day one.

As the only at-scale strategy business that's part of a global professional services network, we embed our strategy capabilities with frontline teams across PwC to show you where you need to go, the choices you'll need to make to get there, and how to get it right.

The result is an authentic strategy process powerful enough to capture possibility, while pragmatic enough to ensure effective delivery. It's the strategy that gets an organization through the changes of today and drives results that redefine tomorrow. It's the strategy that turns vision into reality. It's strategy, made real.

www.strategyand.pwc.com

127079725