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# Education and Innovation Theme

## The Unbundling and Re-bundling of Higher Education February 2013

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## **The unbundling and re-bundling of higher education**

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The higher education story of the last twelve months has been MOOCs—massive open online courses offered by some of the world’s most famous universities, all for free.<sup>1</sup> Huge student interest in MOOCs has some people questioning the higher education business model. Why should students and government pay tens of thousands of dollars for courses that can be delivered for a tiny fraction of that? Whether or not MOOCs stay free, they demonstrate the massive economies of scale in online course delivery.

MOOC sceptics—and there are many—doubt for-profit MOOC platforms like Coursera or Udacity have viable business models. The higher education sector meets a range of different student needs and desires with a bundle of different services. MOOCs are a good option for self-motivated students seeking knowledge for its own sake who have a social life elsewhere. For students who want a coherent sequence of subjects, personalised academic advice, practical training, a social life with fellow students or a credential, the MOOC providers currently cannot help. In 2011, 99.2 per cent of the Australian higher education market was in credentialed education. On their current model, MOOCs are well-positioned to become the biggest player in the smallest, least-lucrative part of the higher education market.

The MOOCs are interesting, however, in their unbundling of higher education. MOOC platforms are primarily in the course delivery business. Course content is provided by the MOOC platforms’ affiliated universities. When offered, exams are supervised by third parties including Pearson VUE and ProctorU. While growing, unbundling is the exception in higher education. Marketing, admissions, course development, course delivery, assessment and credentialing are still typically carried out by the one organisation. Often further services are also bundled in, such as student entertainment, welfare and accommodation. Universities typically co-produce research with teaching and these other services. MOOC platforms are very slim operators by comparison. MOOCs have given unbundling more attention, and invite more thought about why it is occurring.

The traditional highly bundled model of higher education delivery has several problems. For producers, economies of scale are harder to achieve if they produce each component service on their own. For students, bundling means they must buy services they do not want to get access to the services they do want. Bundled production may also have negative implications for quality and innovation. With all higher education services provided by the same organisation, students receive the local service rather than the best service. This shrinks the potential market for other organisations that through specialisation and scale might otherwise have developed better higher education services.

Tight bundling also introduces conflicts of interest. While universities commonly provide course advisers to help students choose subjects, these course advisers will rarely recommend subjects offered by another higher education provider. Given their role, most

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<sup>1</sup> A note on terminology: Expect here where I spell out what ‘MOOC’ stands for I will follow the Australian practice of describing a “course” as a series of subjects or units of study that together lead to a qualification. This differs from American practice – evident in MOOC terminology – but will help me clarify a major topic of this paper, which is that these are different higher education services that can be provided separately.

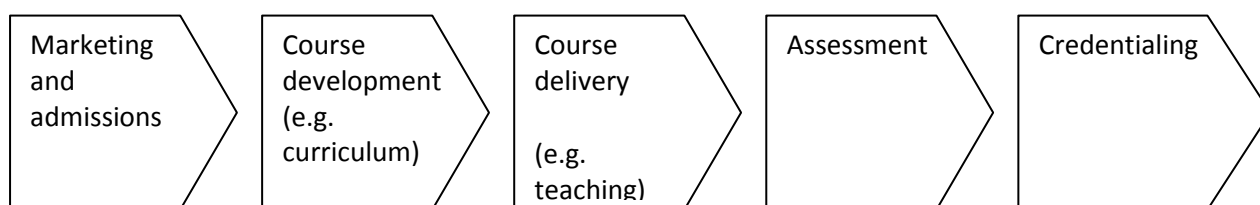
course advisers have limited knowledge outside their own institutions. One potential benefit of the MOOCs is to help students get the best course content, wherever it might come from. But this may require new broker institutions that help students make good choices.

The combination of teaching, assessment and credentialing has long led to allegations of misconduct or low standards. In Australia, lucrative international students are allegedly “soft marked” by universities fearing lost fee income from teaching if students depart through failure or unhappiness at low grades. Whether or not inflated marks are a major problem in practice, bundling teaching and assessment allows such claims to be made. Separating assessment and credentialing from teaching could help avoid these problems.

## 1. What is in the higher education bundle?

In what follows, this paper largely puts to one side non-academic services higher education providers offer students, and the research they co-produce with teaching. This is not because they are unimportant—especially for universities they are core business. However, this paper’s focus is on academic student services.

Various typologies exist, but there are at least five academic student services—marketing and admissions, course development, course delivery, assessment and credentialing—that are typically bundled but which could be unbundled. These are seen in the figure below.



- Acquiring the customer – attracting students through marketing, then selecting and enrolling applicants who meet entry criteria.
- Developing content – the development of course curriculums and associated learning materials.
- Delivering content – conveying the content to the student, whether through lectures, tutorials, lab classes, provision of web-based materials, or other channels.
- Assessment – assessing student skills, traditionally done through a combination of exams and assignments, but also including online assessment methods.
- Credentialing – issuing a recognised qualification to a student who has met the appropriate criteria.

## 2. Marketing and admissions

Higher education marketing and admissions – the process of students choosing higher education institutions and the institutions selecting among their applicants – has a long history of third party involvement.

Typically in Australia, universities use information generated by other organisations to inform their decision as to whether or not to enrol a student. In Victoria in 2012, school results were the principal entry requirement for 85 per cent of undergraduate courses. For mature age students, there is a Special Tertiary Admissions Test administered by the Australian Council for Educational Research, along with some discipline-specific tests. Schools, governments and students pay the cost of generating this information. In the United States, in-house evaluation of personal statements and other subjective measures inflate admission costs.

Applicants face complex choices when the higher education market expands beyond a small number of providers. Clarifying options for students and connecting them with educational institutions is a valuable service. Australia has long used state-based tertiary admissions centres (TACs). The TACs run websites which allow people interested in higher (and sometimes vocational) education to view information on courses at dozens of higher education providers. Search tools let them refine their choices to a manageable list. Though not yet linked to TACs, there is also a federal government website, My University, which provides information by university and field of study on many topics, including results of student satisfaction and employment outcome surveys.

The TACs let higher education applicants apply simultaneously for many different courses. Applicants submit a list of courses in order of their preference. If rejected for their first preference course, they are automatically considered for their second preference course, and so on until they receive an offer or their list is exhausted. This highly automated system works partly because university admissions are largely data-driven in Australia. Some nuance may be lost, but the system keeps time and monetary costs relatively low for both students and higher education providers.

TACs are not selling higher education or any particular course or institution. They are neutral intermediaries between buyers who have already entered the higher education market and sellers of higher education. Two organisations in the Australian higher education market go beyond this neutral role to promote further study and to act as brokers between potential students and higher education providers. The oldest broker institution is Open Universities Australia (OUA). Established in the early 1990s to promote access to higher education, OUA is an early Australian example of unbundling higher education. The course materials were provided by public universities. Classes were broadcast on free-to-air TV, but students had to pay for other study materials and for assessment. OUA is now a for-profit company owned by seven universities and selling online units of study or courses offered by another 14 higher or vocational education providers. Unlike the TACs, it markets further education to people who may not be actively considering it. For example, it used television advertisements during the London 2012 Olympics, and makes frequent use of street advertising such as billboards. Students enrol through the OUA website.

A newer entrant to the broker market is Seek Learning, an offshoot of a leading Australian job search website. Consistent with its origins, its search tool is organised by desired occupation rather than by course. 'Learning consultants' available online or by phone can offer advice on courses, careers, financing options, government welfare payments for students, and advice on balancing work, life and study. Services that are optional and incidental at traditional higher education providers, available on their websites if you search for them but not prominently displayed, are key selling points at Seek Learning. Like OUA, it does the enrolment for the student.

OUA and Seek Learning help would-be students navigate their many study options and other complexities that come with higher education. They have unbundled this service from the delivery of higher education course content, extracting profits unrealised by the highly-

integrated higher education providers. While OUA and Seek Learning provide a useful service, unlike the TACs they are not disinterested intermediaries. They have commercial relationships with particular higher education providers, and this restricts the options they can put to students.

The higher education market lacks institutions that can disinterestedly advise potential students as to the advantages and disadvantages of their various educational options (including doing nothing, given the high direct and opportunity costs of education). For that to occur, the potential student would need to pay for the service—a considerable change from the current system, beyond small application fees charged by the TACs. The potential student would need to be convinced of the pay-off, whether through going with cheaper options, and/or in better long-term outcomes.

In the Australian domestic undergraduate market at least, the current regulatory environment is not promising for such an institution. This is not because such organisations are prohibited, but because the flat fee structure that comes from price-capping for government subsidised undergraduate places (well over 90 per cent of the market) means that there is little scope for saving money. All institutions charge the same amount for units by field of study, regardless of delivery mode, quality or prestige. However, in the postgraduate market we do observe large differences in fees charged for courses leading to qualifications with the same name, and with similar course content. This market is of course smaller than the undergraduate market, which would weaken its commercial viability.

### 3. Course content and development

Though course content is important to any higher education course, the scope for making it distinctive to any individual university is often limited. In many disciplines there is core content that must be taught to all students, especially in the earlier years of a course. The subjects available through MOOCs are largely in areas where there is substantial content overlap across the world. In Australia, about 60 per cent of undergraduate students are enrolled in courses where we believe there is similar content globally, with another one-third of enrolments in courses with both global and Australia-specific content. In degrees oriented to particular professions, course content will also tend to be similar between institutions – they all teach what is required for professional admission.

Overlapping course content provides obvious economies of scale. The long-standing commercial textbook market reflects the fact that core course materials can be shared between institutions. Production costs are recovered and profits made from many universities using the same textbook. Given the level of common content, textbooks must often differentiate themselves on how clearly they organise and explain their material, rather than on the topics covered (an aspect of course delivery, discussed below).

Apart from the conflict-of-interest issues surrounding textbooks academics have written and prescribed themselves (or is this an example of synergy?), course content has been one of the more successfully competitive parts of the higher education market. It is far easier to compare textbooks in a bookshop or library or from online extracts than it is to compare university subjects. Prospective students searching university websites at the subject level can rarely find more than a few hundred words summarising the content and objectives of each course. Academics can shift between competing textbooks, and students are able to borrow or buy alternative textbooks if they do not find the prescribed textbook satisfactory.

At this early stage, MOOCs are mostly introductory or survey subjects. Except perhaps in computer science, MOOCs do not offer extended sequences of related subjects equivalent to a course “major”. The “value add” of a higher education provider putting together a coherent set of subjects, with knowledge that cumulatively amounts to some kind of basic expertise, is absent. It is the combination of subjects that typically makes a person “qualified” in a particular field.

While universities add value in putting these combinations together, they have an interest in recommending their own subjects, whether or not these are the best for that sub-set of knowledge, or cohere best with the student’s learning objectives. As with broker institutions at the course level, there could be a role for institutions which put together the subjects that make up a degree. Subjects from MOOCs, a traditional university, some other higher education provider or a professional association could be combined. Potentially, the broker could optimise the mix for particular students, given their learning and career goals, what other services they wanted to bundle with their education, and their willingness to pay.

The brokers could influence higher education providers to compete on a different level—the unit of study, rather than whole-of-course or institution. It could drive the quality that comes with specialisation, and the lower cost that comes with economies of scale. The Australian higher education sector already has experience in combining units from different sources. All universities have procedures for recognising study completed elsewhere. Students transferring from one university to another can complete as little as one-third of the required credit points at the new institution. Some institutions offer recognition of prior learning other than through formal education in a higher education institution. Provision for simultaneous cross-institutional enrolment is standard. Long-standing international student exchange programs mean that subjects from foreign universities are already a common part of Australian university qualifications.

For on-campus modes of education delivery, there are obvious practical limits to this practice. It will often be inconvenient for students to have to attend classes at different universities in the same semester. The system of recognising units taught elsewhere was developed to deal with students whose personal circumstances meant they could no longer attend their original university, had a particular interest in a subject not taught in their university, or in the case of study abroad were seeking an international experience to complement their home-university study. Recognition of subjects taken elsewhere was not meant to encourage shopping around for a better deal, financially or academically.

What could bring about an institution that facilitated shopping around? First, taking courses from multiple higher education providers needs to become more convenient. Except in a few urban areas with multiple higher education providers in close proximity, that means online education. Second, students would need academic and/or financial incentives to abandon the convenience of a one-stop shop higher education provider. The alternative units would need to be (individually or collectively) better in content or delivery, from a more prestigious higher education provider, or cheaper. This is where online education and MOOCs start to look significant. Finally, the aggregating institution would need to be able to award, or find some other organisation to award, a credential or some other recognition of learning that had value to students in the labour market.

#### 4. Course delivery

Course delivery appears to be a core higher education provider function. On closer examination, universities have been relaxed about letting outsiders do the work. Universities use temporary staff for much of their teaching, particularly at the tutorial level. Some already

completely outsource their teaching for some courses, to private companies such as Navitas. Normally this occurs only when they want to establish an outlet away from their home city. For example, the Perth-based Curtin University offers its Bachelor of Commerce degree in Sydney, taught by Navitas. However, Navitas has lower costs than its client universities, because it employs staff on a teaching-only basis and uses its infrastructure year-round. Navitas annual reports show that it is highly profitable, while university surpluses are rarely more than a small percentage of total revenues.

While Curtin keeps control over content, deals by MOOC providers are seeing course content and partial delivery bought in by on-campus universities. Coursera has signed a deal with Antioch University in Los Angeles, which will pay to use Coursera subjects. Antioch will offer students academic support and a credential. Udacity is selling its materials to San Jose State University in California. Rather than there being a sharp dichotomy between online and on-campus provision, these arrangements show how on-campus universities can partially use online delivery provided by third parties while retaining face-to-face services and their own credentials.

## 5. Assessment

Assessment is perhaps the biggest difference between formal higher education and self-education in the same subject. Assessment measures the extent to which someone has—at least at the time of assessment—mastered a defined body of knowledge or set of skills. MOOCs often have online quizzes or peer assessment that students can use to assess their own progress. But certified assessment is usually needed if students want to represent themselves to third parties as having acquired the knowledge—for example to gain admission to the next stage of a course or another course, secure a credential (see the next section), or sell their labour at a higher price.

Most higher education providers retain control over setting and grading exams or assignments. Most also conduct their own examinations, though this has been outsourced more often. Like many other higher education providers, MOOC providers now offer testing supervised by commercial partners such as Pearson VUE and ProctorU. MOOC students pay for this service, providing a MOOC revenue stream. The Australian online provider Open Universities Australia uses Monash University's examination service to conduct its exams. With Monash already hiring large venues for examinations, it is more cost effective for OUA to use Monash than to run its own exams.

Online assessment is already speeding up and reducing the cost of assessment, though student identification issues mean that credible final assessment requires the student's physical appearance at an exam venue. However, in many disciplines assessment still requires that written work be evaluated, limiting computerised marking of answers as right or wrong. So the hand-written examination booklet marked by the academic(s) teaching the course is still in wide use. If all examinees typed their answers, it would give new scope for outsourced efficiency in assessment. Just as some medical diagnostic work can be done online in lower-wage economies such as India, so can assessment of student work completed in high-wage countries. The Indian examination company MeritTrac has a system in which student answers to exam questions are distributed to a pool of examiners, with every question double marked.<sup>2</sup> In addition to potential cost advantages, in both its

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<sup>2</sup> Presentation from former Manipal Education CEO Anand Sudarshan, University of Melbourne, 22 August 2012.

anonymity and double marking the MeritTrac system has more integrity protections than is common in Australian universities.

Examination organisations typically work for higher education institutions. But the skills these organizations develop working for others could be used to run their own exams, independent of any particular higher education institution. As in other areas of higher education, the considerable course content overlap between higher education institutions, due to core disciplinary knowledge or professional admission requirements, opens up potential for unbundling. Generic skills such as communication and critical thinking which universities claim to improve but rarely verify could also be tested (as the Collegiate Learning Assessment test does).

Unbundling teaching and assessment creates opportunities for people to prove their knowledge at much lower cost than taking a course. There are some examples of this already in the market. The American LearningCounts.org offers 'college credit for what you already know'. In the Australian vocational education industry, the VETASSESS organisation offers recognition of prior learning and of foreign qualifications. If an assessment organisation acquired a good reputation, there may also be a market among students attending higher education institutions that lack prestige or brand recognition.

The key vulnerability in this unbundling is the credibility and standing of the assessment organisation. Universities are likely to be careful in outsourcing assessment services, despite the potential cost savings, for fear of endorsing a future potential rival. But there are non-university brands with strong reputations. The organisations that run university admission tests may be in this position. In the United States, the College Board that runs the SAT is owned by colleges and universities and is therefore unlikely to become a competitor. Australian admissions tests are run by the independent Australian Council for Educational Research (ACER), though given Australia's general reliance on school results for higher education admission ACER has a much lower profile in Australia than the College Board in the United States.

Though not intended as an assessment system that gives individuals grades they can use, the OECD's Assessment of Higher Education Learning Outcomes (AHELO) project could provide internationally comparable data on what students know and can do. In its feasibility testing phase, later-year undergraduate students in engineering and economics at 150 higher education institutions in 17 countries have been tested. Though it is unlikely that the OECD itself would become involved in commercial testing, like MOOCs the AHELO exercise has the potential to prompt new thinking about how higher education is organised. If its results are anything like those in the OECD's school Programme for International Student Assessment (PISA), it will prompt wide debate on the quality of higher education and what can be done to improve it.

## 6. Credentials

The most valuable higher education commodity is the credential. In Australia, all the major qualification titles – certificate, diploma and degree – can only be used in accordance with legislation. Where a course of study does not lead to a qualification, there is little education regulation put in its way. It can be bundled or unbundled by students or higher education providers as they choose.

Regulation of courses begins when a qualification is to be awarded. Only registered higher education providers can award degrees. A national higher education regulator, the Tertiary Education Quality and Standards Agency (TEQSA), provides a 50-page guide to rules covering admission to courses, course development, course delivery and assessment.



Though in Australia universities and some other higher education providers “self-accredit” – that is, approve their own courses – they are supposed to follow the TEQSA guide in doing so. All other higher education providers must have each course approved by TEQSA.

Higher education providers can re-bundle services provided by other organisations. But they must offer at least one “course of study” leading to an award. So under current law any organisation that wants to be in the credentialing business must also be in the teaching business. Except for honorary degrees, qualifications can only be awarded to students who have completed a course of study. So credential clients (people who want their knowledge and skills recognised with a formal qualification) as well as higher education providers are required to link the credential with a course. They cannot just complete the assessment procedures required for the credential to be awarded. Current Australian law therefore prevents a complete unbundling of higher education services.

It is not clear why credentials and teaching *must* be combined. For some students, they might want to go to a university in which these two parts of the higher education are bundled. If they want a social or quality signal of some kind, they might want others to believe that they spent three or four years in the company of other high-status people. There will be a market for this form of bundling. But there is also an inherent conflict of interest when teaching, assessment and credentialing are all bundled together.

Third parties such as employers have an interest in the credential and associated academic record truthfully certifying the graduate’s knowledge and skills. Higher education providers have an interest in maximising their revenue from teaching, and so may be wary of making their assessment too difficult, for fear that students will go elsewhere. As discussed earlier, bundling these elements together creates concerns about “soft marking”.

In Australian school education teaching is partly separated from assessment, and fully separated from credentials. Each State has its own system of examinations, with most work graded anonymously. The final certificate is awarded by a State government agency, not the school. Grades are moderated and also ranked for the purposes of higher education entry. As in other countries, the school curriculum is a subject of controversy. However, the grading system means that school results are seen as reliable statements of a certificate holder’s relative academic strength.

If higher education becomes more unbundled, the role of a credentialing organisation could be to help students navigate their way around the market. This paper looked for potential benefits of unbundling, but there are advantages in bundling. Single providers can use their organisational control to ensure that the different parts of the system fit together smoothly—that enrolment is completed in one transaction, that subjects follow each other in a logical way with no knowledge gaps, that assessment is closely related to course materials, that the subjects taken meet the rules for awarding a qualification and being admitted to a profession. The technology of learning analytics—software that can closely monitor what students are doing, to allow early intervention if things are going wrong—could generate new benefits of bundling. But for students who don’t want to buy all their higher education services from one university, a credentialing organisation might use its knowledge of the industry and market to put together a good qualification package from multiple different providers. The credibility of the credentialing organisation relies in part on it *not* delivering any other higher education service, which would create a conflict between its commercial interests and the student’s interest in getting the right outcome at the right price.

## 7. Conclusion

In the United States especially, higher education is widely believed to cost too much and deliver too little. Book titles like *Reinventing Higher Education*, *The Innovative University: Changing the DNA of Higher Education from the Inside Out*, *Doing More with Less: Making Colleges Work Better*, and *Why Does College Cost So Much?* give the flavour of the critique. There is less of a sense of crisis in Australia, partly because price control has helped keep total costs down, and a generous student loan scheme has transferred much of the risk of higher education to the federal government. But survey evidence shows that Australian students are less satisfied with their education than their American counterparts, suggesting considerable room for improvement. The unbundling of higher education is no cure-all for the industry's problems. But given its potential for lessening conflicts of interest, promoting economies of scale, lessening information asymmetries, and providing packages of services more attuned to student demand, it is an important development. Where public funding and regulation assume the traditional university model, there is room for policy change to encourage new modes of producing higher education services.